PROGRAM MANAGER

DESKBOOK CD INSIDE

Acquisition Reform — "The End of the Beginning"

Paul G. Kaminski
Under Secretary of Defense
(Acquisition and Technology)

R. Noel Longuemare
Principal Deputy Under Secretary of Defense
(Acquisition and Technology)

Colleen A. Preston
Deputy Under Secretary of Defense
(Acquisition Reform)

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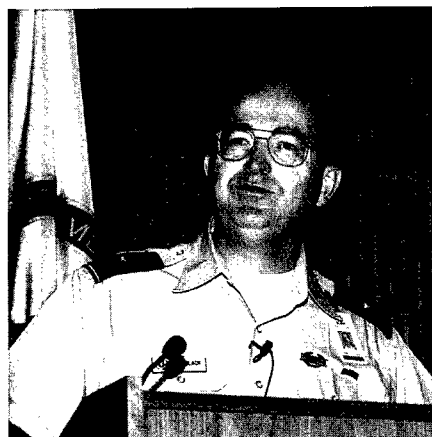
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Paul Kaminski on Acquisition Reform

"Changing Culture is a Hard Process"

ll through his career, Secretary of Defense William J. Perry was confronted with people who told him that acquisition reform simply could not be done. That you could write papers about it, you could do studies on it, you could do reorganizations to try to make it happen, but you were just shuffling paper around and shuffling people around, and in the long run, it wouldn't make any difference.

And over the years, Perry came to somewhat half believe those people. That is, until he became Secretary of Defense and was able to put together his own, hand-selected team to reform a complex, cumbersome, and burdensome acquisition system that had become so ingrained as to be impervious to change.

Perry found the man for the job—Dr. Paul G. Kaminski, Under Secretary of Defense for Acquisition and Technology, whose appointment was subsequently confirmed by the Senate in October 1994. Kaminski has proven himself a precise, focused man who chooses his words carefully. He readily agreed to be interviewed by our staff for this special edition of *Program Manager*.

Kaminski's long and distinguished government career bespeaks hard work and commitment in several key government positions. Now, at a point in his life where he could serve as a CEO, director, or trustee of defense- and technology-oriented companies,

DR. PAUL G. KAMINSKI, UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND TECHNOLOGY (LEFT), IS INTERVIEWED FROM HIS PENTAGON OFFICE BY *PROGRAM MANAGER'S* REPRESENTATIVE, DR. J. RONALD FOX, SENIOR EDUCATIONAL ADVISOR, DSMC.

he's chosen to give something back—something that many said could not be done. Has he been successful instituting needed reform in the government's antiquated procurement and acquisition system? The Congress and Perry believe so:

and streamline the acquisition process...he continually demonstrated an unequaled mastery for leading organizational change by empowering the acquisition workforce to explore better, faster, and more cost-effective ways of doing business.

(Remarks by Secretary of Defense William J. Perry as he awarded the Department of Defense Medal for Distinguished Public Service to Dr. Paul G. Kaminski, Pentagon, May 20, 1996.)

Program Manager and the Defense Systems Management College are honored to present to our readers an interview with the acquisition community's most senior leader.

Fox: We'd like to get a little background on you to start with. Could you tell us a bit about your career and the jobs that you had that led to your current position?

Kaminski: Certainly. I think really one of the interesting aspects of my background has been to have had the opportunity to serve as a program manager along the way. I had a 20-year career in the Air Force, and 10 years as a founding partner and eventually as CEO of an investment banking and consulting firm, before being appointed to this job. And during that 20-year Air Force career I did manage science and technology programs, but I also had the opportunity to manage the initial phases of a large (and still is a large) and classified space program.

When I worked on this program, I had the opportunity to manage in a highly streamlined, classified environment. I also had the opportunity in other assignments to do a few things in the normal business-as-usual acquisition environment. And the contrasts were very stark.

In one situation, the classified space program, it was up to the program manager pretty much to determine

what one wanted to do, including for example, what conditions, what specifications one wanted to impose. Generally, the programs in the classified acquisition environment were very streamlined. In the business-as-usual, unclassified environment, we had a big engineering support organization whose job was to recommend contract data items, specifications, and the like. This put the program manager in the position of having to go on record as opposing the engineering support organization that recommended all the additional data and specification requirements to go on the contracts. It put the program manager in a very tough position, because if something happened on the program, and you had recommended removing these items, the blame would fall on you. However, the risk-rewards were such that most program managers widely accepted the responsibility for making these tough calls. And so at a point early in my career, this risk-rewards system reinforced for me the benefits of a less bureaucratic, more streamlined acquisition environment.

Also, this organization developed some very innovative contracting procedures. Some very creative people gave very careful attention to issues like incentives in contracts.

For example, the performance of our spacecraft was very important to us. We developed an arrangement to incentivize on-orbit performance with a 15-percent fee. Every on-orbit performance parameter that we did not make or failed on-orbit was a penalty against that fee. The innovation in this contract structure was that the 15-percent fee was paid up-front, and then as failures occurred, the CEO of the company wrote a check back to the government to return some of the fee. And I think that communicated a fairly clear message about the need to perform well on the ground before the spacecraft was launched. So people in these small teams were really very creative.

Black: How comfortable did you feel that the training that you had had as a pro-

Dr. Kaminski's inspiring leadership, extensive knowledge, and dedication to purpose were instrumental in the unprecedented successes of the Department of Defense's efforts to reengineer

DR. PAUL G. KAMINSKI

Under Secretary of Defense
(Acquisition and Technology)

D r. Paul G. Kaminski was sworn in as the Under Secretary of Defense (Acquisition and Technology) on Oct. 3, 1994. In this position, he is responsible for all matters relating to Department of Defense acquisition, including research and development, procurement, acquisition reform, advanced technology, atomic energy, economic security, environmental security, dual-use technology, logistics, the Defense technology and industrial base, and military construction.
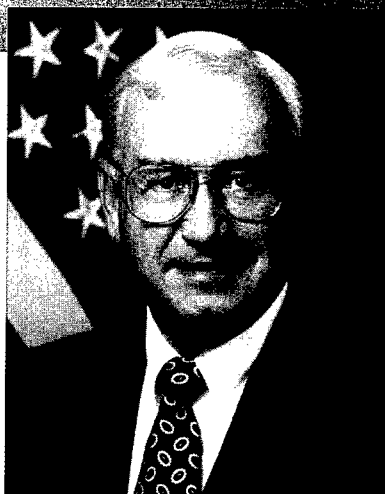
Kaminski's long and distinguished career includes several key assignments in advanced technology and acquisition. Most recently, he was Chairman and Chief Executive Officer of Technology Strategies and Alliances, a technology-oriented investment banking and consulting firm. He served as Chairman of the Defense Science Board and was also a member of the Defense Policy Board. In addition, he served as a consultant and advisor to a wide variety of government agencies and as a director and trustee of several Defense and technology-oriented companies.

His extensive government experience includes a 20-year career in the Air Force. During 1981-1984, he served as Director for Low Observables Technology, with responsibility for directing the development of Stealth technology. Prior to that, he served as Special Assistant to the Under Secretary of Defense for Research and Engineering. Early in his career, he was responsible for development of inertial and terminal guidance components for the Minuteman missile and other precision-guided missiles. He was also active in development of spacecraft and payload technology.

Kaminski is also a member of the National Academy of Engineering; a senior member of the American Institute of Aeronautics, the Institute for Electrical and Electronic Engineering, and American Association for the Advancement of Science; and a member of Tau Beta Pi, Sigma Xi, and Sigma Gamma Tau Honor Societies. He has authored publications dealing with inertial and terminal guidance system performance, simulation techniques, Kalman filtering, and numerical techniques applied to estimation problems.

Kaminski was born in Cleveland, Ohio. He received a Bachelor of Science from the Air Force Academy; Master of Science degrees in Aeronautics and Astronautics and in Electrical Engineering from Massachusetts Institute of Technology; and a Ph.D. in Aeronautics and Astronautics from Stanford University. He and his wife, Julie, have two children.

gram manager prepared you to evaluate those contracting strategies and the innovation of those things while you were there? Were you totally dependent upon the Department or did you feel comfortable that you had enough higher training and experience that you could kind of agree or modify the acquisition strategy as it was developing?

Kaminski: Dick, that is an interesting question. At that point in my career, I had no formal training in acquisition management. I had technical training, but I had really very little experience as a program manager. So all of my training was obtained in what rubbed off in dealing with other people. I did have peers that I could go and talk to and learn from. A good deal of my learning experience came from interacting with the Aerospace Corporation personnel who were assigned to my small program office. There we had what I would describe as kind of an interesting role reversal in that I had military officers in my program office who were very competent technically, but they did not have a lot of program management experience. The military officers I had in my program office, in some cases, were as competent or were more competent in technical theory than the Aerospace staff since they had recently completed advanced degrees. Many had a great theoretical foundation but did not have a good, pragmatic foundation in program management.

And so the management continuity in those program offices was largely provided by the Aerospace staff—people who had bruised knuckles, who had been through previous programs. And that's where many of my learning experiences came from. So, it was gained with a complete absence of formal training and experience; it was "learn as you go." I started with some smaller contract activities before working up to responsibility for managing a large program.

Fox: Picking up on General Black's comment, many of the regulations on complex contracting approaches, incentive contracting, and approaches dealing with the

relationship between government and industry are put in place because of a fear that the government program manager may not have sufficient experience or training to deal with those things. Now, in your case you were able to surmount that barrier, if you will, and deal with that. How is it that that occurred? Was it due to previous assignments that you had or, as you say, access to Aerospace Corporation?

Kaminski: It was not just access to the Aerospace Corporation. It was other acquisition professionals in the Air Force. I had access to other military officers in the organization. I would also say that in the special-projects environment, there were very substantial incentives for companies to perform. This was an environment that in a sense was like a commercial business environment. If your past performance on a previous effort was poor, you might expect not to receive a solicitation for the next opportunity—something different than the traditional contracting approaches practiced on unclassified programs. So there were real incentives for companies to perform. In some respects, it was an easier environment to manage in.

Fox: Given your background in program management, as you look at the job of the program manager today, are there parts of that job that strike you as being particularly challenging in today's environment, or do you not think of it that way?

Kaminski: In today's environment, I think there is a change. There is a new element that is probably more important, and it is this concept of Cost As an Independent Variable—CAIV. It is a situation in which I think of the program manager as the leader and a generalist who really needs to work with the warfighting user and understand the operational needs. The program manager also needs to be a facilitator in terms of understanding what industry has to offer in bridging that gap between what industry has available, what can be developed and produced at affordable costs, and what the operator really does need. I think of the pro-

gram manager as being able to span these issues, to be able to get in and mix it up with the operators in terms of understanding what is really driving the requirement so that intelligent compromises can be proposed, and also to understand what is happening technologically and in the industrial base.

And I think that experience of this sort can really only be gained by working with the program for a period of time. In a perfect world, we would have an opportunity to start off with defining concepts to deal with a particular need, seeing those concepts mature, seeing the best concept go through an Engineering and Manufacturing Development program, and then seeing the system produced and deployed.

One of the practical difficulties, however, with that kind of an arrangement is that when the duration of the program is 12 to 15 years, you are not going to see one program manager stay through all those program phases. You are going to end up with three or four program managers over the whole duration of the program. And that is probably one of our greater problems— maintaining continuity through the transition of program managers. I do not think the solution to this problem is making a program manager's tour longer. I do not think that is practical for a whole variety of reasons. I think a better solution to this problem is to make the acquisition cycle time of the program shorter.

Fox: As you review the status of defense programs—and you've seen many of them while you've been in this particular job— could you reflect on what makes the difference between an average program manager and an outstanding program manager?

Kaminski: I think there are several things that make a difference between the average and the outstanding. A very important feature is being objective. It is easy as a program manager to become enthralled with a particular approach, especially as the program

environment is changing, and not recognize what is changing in the environment. So there is some need for flexibility, but most importantly, I would describe it as being objective. After looking at all the facts and circumstances, one should be able to arrive at an objective appraisal in the end.

A second very important characteristic, and this one probably will become more important in time, is the ability to communicate. As we work in Integrated Product Teams, the program manager really has a key role to play in dealing with multiple teams and multiple disciplines, and being able to make himself or herself understood. Being able to listen in that environment is very key as well.

Underlying the concept of Integrated Product Teams is that the entire team, whether it be a Working IPT or an Overarching IPT, functions in a way in which that team needs to operate off the same base of facts. That is very important because informed, intelligent people often tend to reach similar conclusions if they are operating off the same base of facts.

The benefits of drawing program managers into IPTs is that the issues are aired earlier. They are aired in a very substantive way. And when the team comes forward with a position, it is a position that's well vetted. I see the program manager as a key catalyst in this process. For this reason, there are probably more demands on communication and interaction with people today than there were in the past. The interaction with the contractor is equally important, but the ability to transcend those two communities is the key role that I see the program manager playing.

Fox: Your reference to objectivity is both interesting and understandable. For many years people have referred to the difficulties that program managers experience when they find themselves spending too much time being program advocates and insufficient time playing the objective role

that you've described. At the same time, people will say, "Show me a program manager who is not an advocate, and I'll show you a program manager who is about to lose his program." I wonder if you have any advice on balancing these perspectives?

Kaminski: I do. In my mind, the order is important. I think advocacy has to come after objectivity. And the program manager has to be a strong advocate for his or her position, but that position cannot stay fixed in time forever. It requires a continuing sense of objectivity to understand where to go and why, and how to go about that. A decided benefit of this IPT process is that it allows for a whole team to really be able to come to these conclusions. Once having arrived at a decision, there is a need for the program manager—as an individual—to be the advocate and to have a team serve that advocacy position.

Fox: That certainly makes good sense. In reflecting on the time that you've spent in your current job, would you share with us your views on the types of problems that keep occurring over and over again? What are the most intractable kinds of problems that occur on acquisition programs?

Kaminski: I am not sure I see one intractable problem. As I review on a monthly, or in fact in some cases a bimonthly basis, our Defense Acquisition Executive Summary or DAES reports, there are a whole number of flags that I look for. And one of the flags that actually appears very often has to do with late or overdue delivery of Test and Evaluation Master Plans or TEMPs. TEMPs are late when there has been some kind of breakdown in communication with the test community. Our relationships with the test and evaluation community, both developmental and operational testers, is an area that I and my senior test officers have been working to improve. We still have some work to do to change our respective cultures. It is the reason why we continue to see symptoms of problems—late test and evaluation plans,

overdue test reports, or missed test milestones in programs. There is still inadequate team play between program managers and our testers. On occasion, there is a little bit of a sense of "we" and "they"; that is, the testers are in the role of the "Good Housekeeping Seal of Approval" and not finding themselves embedded in the program. Meanwhile, the program manager is viewing the test community as this outside bunch who, at the end, is going to come in and give the program a grade.

I have a different concept in mind about how the test and program management communities should relate to each other. I have a concept in mind in which the program manager ought to be thinking of the tester as his or her ally. The tester's job, in my opinion, is to work with the program manager to see how we can field the best equipment in the shortest time for the smallest amount of money. The tester needs to be concerned with the cycle time associated with the testing, and with the early use of simulation to understand and illuminate the issues. The tester does have a responsibility in the end for the integrity of the product and does have to fulfill that responsibility, but this can be done in a more integrated way.

This is happening on many programs, but it is not happening on all programs yet. I still see some aspects of "we" and "they" between the acquisition and the test communities. I am really looking to achieve a tighter integration for these two communities. Both are really working on the same problem—trying to field the best equipment in the shortest time.

Fox: People in the Under Secretary's job in the past have often referred to surprises that occur in reviewing programs. Is that still a problem, or have surprises become less significant in recent years?

Kaminski: Surprises are much fewer in number and a lesser problem than they used to be. The IPT process is a very good warning indicator for me. I

have had really very few surprises in this job. I have seen red flags going up early in the process we have in place for all of our major programs. Surprises may be more of a problem on smaller programs, but for the major acquisition programs, I see them as greatly reduced in number and significance.

Fox: That's good to hear.

Kaminski: There is one point I would like to go back to. It relates to my own management experiences when I ended up serving for about three years as the Director of the Stealth program. That was a very interesting experience. I had been working for Secretary Perry when he then had my current job as he established the foundation for that program. At that time, I served as his special assistant and advisor for the Stealth program. We saw the huge potential. We launched various pieces of that program, which included fighter aircraft, bomber aircraft, missile programs, and a few other entities as well. And when the administration changed at the end of the Carter Administration, I left the OSD staff and was reassigned to the Air Force, to direct that program. I was a dual-hatted director in that I had responsibility for Air Force programs, but also had the responsibility, and was accountable to OSD, for oversight of the management arrangements for all the low observables programs for all the Services. And while I was not in a direct program management responsibility, I had oversight for all the programs.

There were several important lessons that I learned in that assignment about objectivity. I found that there was not a good set of checks and balances. We had very significant resources available to us. There was tremendous support for the program. And the program was a classified program, so it did not have a lot of outside review.

One of the things I resolved to do early on—that I needed to do for my own conscience and comfort—was to take about one percent of the resources I

had available to me and to set up a very aggressive RED team to see how one might develop countermeasures technology to defeat what we were doing. It helped ensure that we maintained a sense of objectivity and were indeed doing the right thing. It was important to do because we were breaking ground in a whole new field where we did not understand many of the technical underpinnings.

And I think as I look back, we would have run into a lot of problems, had we not chosen the countermeasures work to retain our objectivity. We gained valuable insights by spending one percent of our resources to develop our own system of checks and balances. We gave the best and brightest of the country full exposure to the technologies being developed so they could look at what the countermeasures might be. It was a very important thing for us to do.

The use of IPTs was the second thing done in that program. We did not call them Integrated Product Teams at the time, but our program management arrangements were set up very much on this concept. For example, in programs like the F-117, there was a monthly management meeting in which a handful of people would attend, something less than 10 percent. Each person on the team was empowered. The major program decisions were made at the monthly meetings. Team members did not go home to check with the boss about their organization's position. There was an opportunity to check with the boss beforehand, but at the meeting, participants were empowered to make the decision. The meeting was attended by the government program manager, by the F-117 Lockheed program manager, by the GE engine program manager, by our test director, by the (using) command, by the head of logistics, etc.—a small number of people who could go through all the issues and make a crisp decision.

Now, not every one of those decisions was correct at the time, but I would say

> We gained valuable insights by spending one percent of our resources to develop our own system of checks and balances. We gave the best and brightest of the country full exposure to the technologies being developed so they could look at what the countermeasures might be.

it was rare to have a wrong decision last for two months. And the program's activities over the next month would reflect the decisions made at that meeting. It was a very streamlined, very quickly acting system that worked extremely well. It was a very well-run development program.

And so those are some of the ideas I brought to this job in terms of using IPTs spanning many different functions: training, logistics, force employment, and new concepts.

Fox: Those are particularly useful insights for today's program managers.

Black: *If I could interject please, during your time there, you were not operating under a PEO structure?*

Kaminski: Right. While we didn't have PEOs at the time, I would describe my job then as the PEO of the Stealth program.

Black: *And the function you just described while you were the Director of the Stealth sounds just like the responsibility of the PEOs. And they now, at least in current practice, embody some of the objectivity because they are not so much involved in the efficacy of the program and can look across the entire mission area and say, "Oh, I see some other things here that you need to consider," and they have the opportunity to look at a number of different programs in different phases of the program with different contract strategy.*

Kaminski: Yes.

Black: *That gives them an immense advantage in helping the program manager today. I wondered if you would comment?*

Kaminski: That is a very interesting observation. I didn't think of the job I had then as a PEO's job. But in retrospect, it was very much like a PEO's position because I had major responsibility for resource allocation and deciding if a particular program was not really making it, was not doing what we were needing it to do, then it was time

to redirect resources away from that program. In some senses, I had a lot more authority than a PEO does because I could very often reallocate the resources to another program and not have to deal with an independent comptroller organization that might police up my funds. So in a sense, I actually had more control than a PEO in terms of being able to make those adjustments stick. I had the responsibility to assess the broader issues, which is what I am looking for from a PEO—to look at a mission area and to provide objective appraisals of how are we proceeding on various solutions, to develop alternative solutions, and to identify what adjustments should be made.

Black: The other point was that you said that a mistake didn't last more than a couple of months. And I think that's absolutely insightful in that I heard a comment yesterday about a master craftsman is a guy who is a professional, but the things that distinguish him from the amateur is that he can find his mistakes sooner and correct them at much less expense.

And I thought, "How appropriate to what we do in the defense business." We're not perfect. We're not in a zero-defect environment. But when we find a mistake, we can get it corrected earlier if we have this openness—that distinguishes the difference.

Kaminski: I want to share with you a particular example. There is a sense that these special access programs end up being perfect programs that never have any problems. These programs do have many advantages.

One advantage is that test results typically are not made public very early on. And when a program manager is not concerned about the risk of early exposure of problems, the program manager will lean forward to find out what the problems are earlier in the program's development cycle. So we had a very aggressive test program that found problems very early on and gave us a path to solutions.

In a situation where the program manager is really very concerned about a program, the tendency very often is to wait and do tests until you are very sure you are going to pass. The problem is you are not illuminating all the potential problems at an early stage of the program.

In the case of the F-117 Stealth fighter, we stumbled onto a very serious problem very early in the program. For some unexplained reason, we had some badly calibrated wind tunnel data, and the airplane had some unaccounted for stability problems. There was insufficient surface area in the vertical stabilizers of the aircraft; and there is a well-known coefficient in aerodynamics associated with the restoring force due to a yaw displacement that was off by a large amount, by a factor of at least two. As a consequence, the aircraft did not have adequate control authority. The straightforward solution was to increase the area of the vertical stabilizers to get the required directional stability. To generate the right amount of restoring force, we would have had to double the area of the vertical stabilizers. But the aft structure of the airplane would not take that load. And so we were left with a real problem of what to do.

The Integrated Product Teams went to work with the contractor, our engineering and program management staff, and a very key feature here, the using command—the command that was going to use that airplane—and we went through a very quick set of trades. I think the whole process took less than three months. We looked at all the options available to us and came up with a very good alternative, one where we made only minor modifications to the aft structure, and increased the vertical stabilizer area by about 50 percent. We could carry these loads. Then we put a limiter in the airplane to prevent it from going into a flight condition where it would have trouble. This would occur at high angles of attack when you had to command high roll rates. This was an airplane that did not need that kind of maneuver capa-

bility. We worked that through very carefully using modeling and simulation, and including the using command fully in the decision process.

And so it was a very good closed process. It would have been very hard to undertake that kind of design change without major cost and schedule disruption in our typical programs.

Fox: It sounds as though you were operating in an environment where the incentives rewarded objectivity. I suspect that the trick will be finding ways to translate those kind of incentives into programs that are not highly classified.

Kaminski: That is one of the things that I have tried to bring to this job, and implement throughout our whole acquisition system. There was a culture established in those programs in which program managers were willing to take prudent risks. As I said, not every decision at every one of those monthly meetings was correct but very rarely did we go for two months where the impact of a bad decision was evident and we did not take corrective action. In that environment, most people were quick to catch their own errors. If they were not willing to be objective and catch their own errors, let me assure you there were members of the team who were willing to point those out so that they could be objectively discussed.

So the idea of having a good closed-loop process, one where problems could be owned and dealt with objectively by a team, is the kind of environment I have been trying to foster. And I think the IPTs have been constructive in bringing this arrangement about.

I would point out that one of the reasons why these classified programs retained strong support in the Congress is that when we had a problem, we would discuss those problems with the Congress so that they heard about them from us first, and understood what path we were pursuing to solve them. And I think it comes back again to those principles of objectivity and

communication. I have been trying to instill a culture that rewards the kind of behavior in which people are willing to raise problems, get advice on solving them, and then proceed to implement a solution that a team came to and could go off and implement.

Fox: That makes so much sense in terms of dealing with the persistent problems that have plagued the Pentagon for many years.

If we could stay on the topic of your own background and your own experience as a program manager for a moment, you've cited several observations that I think our readers will find very useful in terms of applying those lessons to their own activities.

Could you reflect on whether there are other lessons learned or other observations that you could share that may be helpful to today's program managers?

Kaminski: One that I would share is that the environment we are in today has changed significantly over the environment that I was operating in for a key reason: There is much more available to us today from the commercial sector that can impact our programs.

I, frankly, did not pay much attention to what was going on in the commercial sector during my Air Force career. I was very narrowly channeled into the defense industry base. I do not think our program managers in most cases can afford to be that narrowly channeled today. I think they have to be more aware of what is happening in the commercial world, if not for the systems they are acquiring then for the systems that they plug into for program management support, and the information architectures and structures supporting these systems. Almost invariably, there are commercial subsystems or some commercial business practices that support their operation. And this is a place where I think we still have some deficiencies in our acquisition training and preparation.

I think we are doing good work to expose program managers to defense

> I think we are doing good work to expose program managers to defense acquisition management principles and practices. We probably are not doing enough to expose them to what is happening in the commercial world or to give them adequate incentives to operate in that domain.

acquisition management principles and practices. We probably are not doing enough to expose them to what is happening in the commercial world or to give them adequate incentives to operate in that domain.

I believe one of the things we have to start doing as a Department is thinking more about how we might rotate some of our personnel to give them some direct exposure to commercial industry and commercial practice. We need to be creating a path for some of our people to go out in the commercial industry, and creating a better path for people in commercial industry to come serve in the Department. We need more of a cross-flow. Much of the revolving-door legislation that we have in place today is a counter-incentive for doing that. I think it would be healthy for us as a Department to do more rotation of our personnel.

Fox: That makes sense as well.

Kaminski: That is one of the things that has made DARPA so successful through the years—a heavy rotation of personnel. In fact, Larry Lynn has instituted a policy which limits the amount of time people can serve at DARPA. The limit is five years—after that, a waiver is required to stay in the organization. That kind of rotation and movement is very healthy.

It is one of the reasons why a program manager should not stay with the program forever. I think four years or so in a program management assignment is fine. It is time to broaden and get a better base of experience. To the extent that we can make key phases of the program go down to four years or less, it will be a much more rewarding experience as well.

Fox: Your reference to the PATs or Process Action Teams reminds me that it was about two years ago that your office chartered General Caldwell's Process Action Team on Reengineering the Acquisition Oversight and Review Process. Can you give us any observations on the results of that study? Were you pleased with that

study, and were the results of that study fed into the acquisition initiatives that have been implemented by your office?

Kaminski: Yes. I was pleased by that PAT report. I think it was a very constructive study in that it pushed far enough to get beyond the comfort zone of some of the people supervising our acquisition system. And so it tested some people on the boundaries of how far could we go to reengineer the system. To me, that was the first prerequisite for what we wanted in that kind of an effort—to remove all existing constraints and have a fresh look.

In some cases, it went beyond where I or the Department were prepared to go on some issues. We had a very constructive interaction with the process action team, individually and collectively in that process.

I attribute to the PAT team many of the good ideas we are now implementing, such as the WIPT-OIPT process I have just described. If you go back and look at that PAT report, you will find those IPT principles were embodied very strongly in the report, and they resonated very much with me personally for the reasons that I just described.

At the time we were doing it, as I said, I had not hung the "Integrated Product Team" label on what we are doing. But I recognized the prescription when I saw it in the PAT report. And I associated what was being recommended with the very practices I had been involved in. So that resonated with me very strongly, and I picked up and pushed on those very hard.

But General Caldwell's PAT had a whole number of other recommendations. The preponderance of what was recommended was accepted, and I think most of those have been very effectively put into practice.

Fox: As you reflect on the initiatives that your office has pioneered in acquisition reform, looking at where we are today, and where we're going from here, what

would you cite as the major improvements yet to be achieved in acquisition reform? Where should people look in the future?

Kaminski: There are two or three that I would point out. Probably the biggest one is really being serious about addressing life-cycle cost. That is an area that I think we still talk about today, but I do not think we have followed through with serious initiatives. I still do not believe we have sufficient incentives put in place for most program managers to seriously consider the life-cycle cost of their program and do things during the EMD or production phase of the program that reduce life-cycle cost. The incentives still are too much in the direction of saving near-year monies, and that support costs will be somebody else's problem in the out-years. But as a Department, that is a very important issue.

We will not begin to solve that problem until we fix two components that are currently still broken. One of those components is having adequate visibility into what the life cycle costs are or will be. We do not, across the Department, have good data, a good base of O&M cost information to provide the program manager. And then the second issue is once we have the O&M cost data, we really need better incentives for program managers to use that data.

We have started a few budget initiatives to begin dealing with the incentives problem. I was personally involved in the '97 budget submission to set up a small capital fund, a $90 million capital fund out of the DBOF account, to fund reliability and maintainability improvements for current systems. The objective is to try to jump start the system by providing pilot funds which could be made available to program managers who make proposals that would give us a healthy return on investment. The proposals would compete on the basis of the return on investment. This would be a self-sustaining source of funds that within a four-year period, would have begun to pay for itself.

I will continue to push on this in a big way because this is another area that I would say we have talked about a lot, but we still have not done an awful lot about it.

Another issue that I would highlight—this is one we had made some progress on but I still think we have more work to do—and that is the issue of Cost As an Independent Variable, or CAIV. We are really sitting down and having an interchange with the operational users on the trades associated with requirements and the ultimate cost of the system. And I would say we have made progress here anecdotally—as opposed to systematically—across the whole Department.

I would give you some examples where I think we have done a good job there. One that comes to mind is the Army's SMART-T program. This is a tactical communications terminal that connects with the MILSTAR satellite system. When this program was first initiated, the program was estimated to cost around $790 million. And as a combination of exercising some smart procurement and competitive strategies plus looking at the requirements in a true CAIV sense, this $790 million system turned into a $250 million system, and it will adequately perform the mission.

Now, across the Department, I see this being done on an anecdotal basis or at the margins. I do not see us as fully engaged yet as we could be. And I especially do not see us fully engaged in CAIV trades where the "C" stands for not just acquisition cost, but life-cycle cost.

Fox: It's interesting that two of the innovations that you cite as needing to be made both deal with cost. When studies are made of program management offices and program managers are interviewed and they're asked, "What area would you wish you had greater strength in your program management office," almost invariably the leading comments have to do with the areas of cost analysis and financial management.

Do you see any opportunities for strengthening that aspect of a program manager's office? I sense that there's often a feeling of less than full security in dealing with those kinds of problems as they arise.

Kaminski: We are making some progress in that arena. One of the key measures of progress is getting the program manager and the contractor on the same cost tracking system. When you have government and industry managers operating off the same set of data, the problems are displayed earlier. I think we run into more problems when we try to set up artificial arrangements to track costs.

One of the difficult problems we are still dealing with today is the unmatched disbursements problem—this inability of DFAS to pay our suppliers when a 30-digit code cannot be appropriately entered. Actually, the acquisition community has brought this problem on itself. We have shot ourselves in the foot on this because one of the things we did was set up multiple accounts, these so-called ACRN numbers that go with the contract. And each ACRN number has to be matched for a particular payment. And I think one of the reasons these multiple ACRN accounts got set up was so program managers could track where their funding was going on what aspect of a problem.

So a key contributor to our problem is an internal management arrangement that was set up in some cases by program or financial managers to be able to track funds without anticipating the problem that was going to result when a DFAS office had to certify the payment voucher with an ACRN against a particular contract and match those two up. And when one digit does not match, the invoice does not get paid.

Fox: On several occasions during our discussion you've referred to the importance of incentives and the need to change some incentives for the program manager. It is a very difficult area to get at. Do you see some progress being made in terms of creating better incentives?

Kaminski: I see some progress. I do not think we are making enough progress yet. Let me give you some examples of the kind of incentives I would have in mind. For example, a program to deal with reducing life cycle costs, a reliability and maintainability improvement program, for example. If the system operates in a way so that a Service or a PEO or a program manager has to put up funds to-

I cannot help but wonder where the incentives are in the system for the producer to reduce the unit price when that is simply going to result in less revenue.

day to make that improvement, and then when the out-year savings are realized those funds are swept up by the financial community or elsewhere and those funds are not available to the program or to the Service, then you have to ask yourself, "Why do that? Why take this risk of investing up-front dollars and not be able to realize any benefit downstream?" So even if 20 percent of those savings in the out-years were made available back to the Service or to the PEO, that would create the kind of environment for people to be willing to take a little risk.

A similar initiative I began is something I call the "Buy To The Dollars Rather Than To The Numbers." There is a case where we, in fact, implemented this with a particular system buy. And the idea was if the production cost could be reduced, we would buy the same number of dollars worth of the article as we still had room in our stocks to fill rather than buying to the original quantity. The incentive would then be to reduce the cost. We would buy out the inventory faster by buying a larger number of missiles at the same total cost. I cannot help but wonder where the incentives are in the system for the producer to reduce the unit price when that is simply going to result in less revenue.

Fox: That's right. And that's a difficult incentive to try to change.

Kaminski: Yes. And it is hard to change this incentive because the financial management of the Department understandably does not want to spend any more money this year than it has to, so sometimes the issues were not at odds. That is why it is hard to change. It sometimes takes a long-term view vice a short-term view.

Fox: In several of your speeches, you've mentioned a quote that you've attributed to Winston Churchill, "...We are now at the end of the beginning." Could you explain the philosophy behind that remark?

Kaminski: Yes. The philosophy behind it is what has happened thus far in ac-

quisition reform. We now have two good pieces of legislation (FASA and FARA); a new 5000 series; a set of principles enunciated from the top down; and there is now a whole foundation in place for acquisition reform.
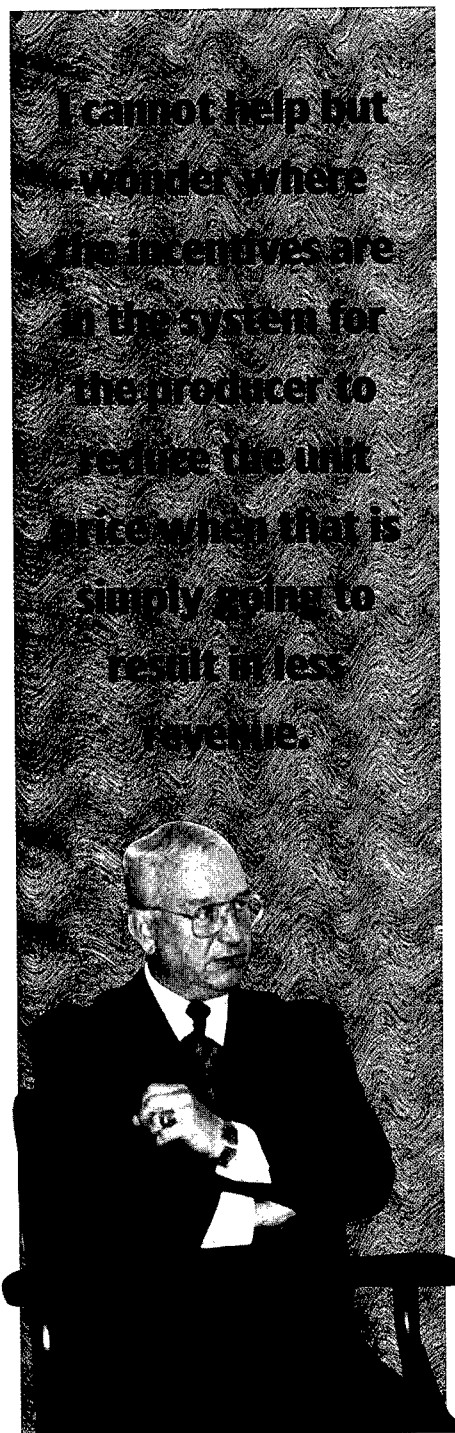
And there are good, although anecdotal, examples of this foundation actually being propagated in the field for our major programs. But I see this as a "wave" that has been launched, and now our task ahead is to propagate this wave through our entire system.

It is already propagating to our major defense acquisition programs; I can see that. My measure here, Ron, is not policy announcements or pronouncements from my office or from the SAEs or even one step down. My measure of effectiveness is what is actually happening in the field in the contracts that we are issuing. And I can see that this wave is propagating through today on our major defense acquisition programs.

It is propagating less so in our smaller programs. It is propagating even less in our base procurement system. And it has also not propagated very well yet into our depot procurement systems. So our mission, as I see it, is to start from this "end of the beginning" and push this wave all through the rest of the system. This wave has been launched, and I think it is moving well, and I think it is likely to continue independent of the leadership here because I do see ownership in the field. I see enough field involvement and participation to create some user pull as well. But there are a lot of people in the system. There is a lot of culture involved in the system, and changing culture is a hard process; it takes time.

Fox: You're doing very useful things for the defense community. I wish you continuing success.

Kaminski: The real credit should go to a very fine, a very dedicated, and very professional acquisition workforce. I would like to thank them very much.

TUITION ASSISTANCE AVAILABLE FOR ACQUISITION WORKFORCE CIVILIANS!

Under the auspices of the Acquisition Education, Training, and Career Development Program, each military department has a special tuition assistance program for civilian members of the acquisition workforce. The defense agencies and other components outside the military departments also set aside funds for the same purpose. Funding is limited, and no one is entitled to receive assistance, but if you are in the acquisition workforce (or want to qualify), you can apply.

Authorized by the Defense Acquisition Workforce Improvement Act (DAWIA), the acquisition workforce tuition-assistance program is designed especially to support employees who take one or two undergraduate or graduate courses for credit at a college near where they work and live. Generally, employees take the courses on their own time, but local commands can authorize attendance during duty hours. DoD-wide, during FY 1993, 6,068 civilian members of the acquisition workforce participated in the program.

The DAWIA sets certain educational standards, and the tuition-assistance program is intended to help employees meet them. The standards are (1) a baccalaureate degree to qualify for membership in an Acquisition Corps or to be in the contracting occupation (i.e., GS-1102 and warranted contracting officers in other occupations); and (2) 24 semester credit hours in specified management disciplines (12 credits if you have 24 credits in your acquisition career field, e.g., engineering). The "specified disciplines" are accounting, business finance, law, contracts, purchasing, economics, industrial management, marketing, quantitative methods, and organization and management. If you need to work on the degree, it should be in a field related to acquisition, such as a science, engineering or technical subject, business, or management. Any course in any subject that meets a college requirement relating to that degree can be funded by this program.

The scope of the program is a bit broader than indicated by the preceding paragraph, and there is a system of priorities for dealing with funding limitations. For example, DoD policy for members of the test and evaluation acquisition workforce makes a master's degree in engineering a "desirable" qualification, so tuition for courses toward such a degree could be supported by this program. However, priority would be lower than, say, for courses mandatory by statute, so getting support would depend on availability of funding.

To apply, contact your civilian personnel office or training coordinator. Ask about the acquisition workforce tuition-reimbursement program. The program may be known by different names in different organizations.

Statement Required by the Act of August 12, 1970, Section 3685, Title 39, United States Code, Showing Ownership, Management, Circulation

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Noel Longuemare On Acquisition Reform

"I See Great Vitality in Today's Acquisition Workforce"

"Quality saves money; good quality doesn't cost anything." And reinvigorating quality and cost savings into the government's acquisition reform process is a top priority for Principal Deputy Under Secretary of Defense (Acquisition & Technology), R. Noel Longuemare. Acquisition reform, according to Longuemare, is a necessary change that will allow us to act with vigor and flexibility into the future. He sees clearly the need for such change and expresses it with conviction.

He is a man of expectations, thoroughly convinced that the acquisition workforce will meet the challenges posed by declining budgets, accelerating technology, and unforeseen threats to national security. He expresses absolute confidence in the "enthusiasm and technical ability" of the acquisition workforce.

Longuemare spoke to *Program Manager* at length from his Pentagon office on Aug. 30.

LeBoeuf: We interviewed you for the Program Manager magazine in March/April of '94. It's now been two-and-a-half years. What significant successes have you seen in acquisition reform, specifically concerning your responsibilities in acquisition and technology?

Longuemare: Gib, let me go back since you referred to the initial interview. When I first started making speeches here [DSMC], I used to talk about four specific things that were important from the Department's viewpoint to focus on in order to achieve our objectives.

The first was what would normally be called the pure acquisition reform initiatives such as the MILSPEC reform and the things that Colleen Preston has been pushing very hard. That's obviously a very significant area. But in addition to that there were three others.

The second was the importance of Joint programs—getting more across-the-board use of the same materiel, having Joint development, that type of thing.

The third was attention to life cycle cost and support—the whole area of logistics support.

And the fourth was to push the concept of Cost As an Independent Variable.

Those were sort of the going-in positions early in the game, and so probably it's worthwhile to use that as a point of reference. We can talk about the acquisition reform initiatives in

FROM LEFT: PRINCIPAL DEPUTY UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND TECHNOLOGY, R. NOEL LONGUEMARE, IS INTERVIEWED IN HIS PENTAGON OFFICE, AUG. 30, 1996, BY *PROGRAM MANAGER'S* REPRESENTATIVE, GIBSON LEBOEUF, HOLDER OF THE NAVY CHAIR, DSMC EXECUTIVE INSTITUTE.

Gibson LeBoeuf, Holder of the Navy Chair, DSMC Executive Institute, and member of the Senior Executive Service, conducted the interview with Secretary Longuemare on behalf of the DSMC Press.

more detail later, but suffice it to say that I think those are going quite well. Let me dwell a little bit on the last three and maybe we can go back to the first one later.

In the area of Joint programs, I think there's a growing recognition of their importance. The Services, the Joint Staff, and the JROC [Joint Requirements Oversight Council] have been working very hard to pursue jointness. And from the acquisition initiative, we've been working very hard to try to arrive at things that will facilitate jointness. Our thrust in open systems, for example, is going to be a major factor in being able to achieve these Joint programs and a number of additional benefits. I already see a great deal of success in some areas. A significant number of our programs are now Joint.

The life cycle support area has gained a lot of momentum. There's a growing recognition of the importance of logistics and support. A growing number of important programs are now addressing that specifically, and I'm starting to hear Life Cycle Cost mentioned as a

> **The Services, the Joint Staff, and the JROC [Joint Requirements Oversight Council] have been working very hard to pursue jointness.**

priority on almost all of our new programs as well as the updates, so I think we can achieve some real progress down the road.

And the last one, Cost As an Independent Variable, that's one of my favorite topics, and I'm really delighted to see how well it is catching on. We're seeing a lot of good results from this thrust.

So in a summary fashion, I'm very pleased with the degree of progress that we've had so far in these important reform initiatives.

LeBoeuf: That's certainly good news for our readers. Let me just take you back to TI, Texas Instruments, in April of 1996. You noted that acquisition reform was more than saving money or making things more efficiently—that it could also involve a safer environment. Along those lines, what examples would you cite against the notion that hard-nosed efficiency is the enemy of good science?

Longuemare: Well, I certainly don't agree with that last premise. But what we have learned as a consequence of pursuing reduced cost is one very important thing: It's analogous to the relationship between quality and cost—

producing quality saves money. Good quality doesn't cost anything, and the same concept is proving true in our related thrusts.

What was interesting to me in this Texas Instruments example was that the initial thrust was to pursue reduction in emissions for the environment, but in the process of doing that it turns out that the steps that were taken reduced the overall cost of the process and [Texas Instruments] ended up with a better total result. I think that's an interesting observation that wasn't immediately obvious. And what it shows is that in most cases when you become more efficient, when you do things better, you usually waste less, you do things only when they're needed, and that generally translates into a better product. This particular example reduced the volatile substance emissions from paint by a large factor and greatly improved the environment. But it also turned out that the process they used substituted lower cost items, there were less emissions, and so it was a win-win deal for everybody.

LeBoeuf: Let's turn our attention to some recent news in the Washington Post. We've all read that there is the possibility that Mr. Deutch could be a likely replacement for the Secretary of Defense, Dr. Perry, in the future. How might acquisition reform, especially the acquisition and technology part of it, benefit from his past experience in the A&T environment? Would you care to comment on that, please?

Longuemare: First let me point out that Dr. Perry has not shared with me, or to my knowledge anyone, any intentions of stepping down. And from a personal viewpoint, I certainly hope he does not.

Let me also point out that when John Deutch was here in the building [Pentagon] he worked for Dr. Perry, and Dr. Perry set the tone in terms of the importance of acquisition reform as a high priority. John clearly grabbed that baton and ran with it very hard, and

Photos by Greg Caruth

Principal Deputy Under Secretary of Defense (Acquisition and Technology)

R Noel Longuemare was confirmed by the Senate as the Principal Deputy Under Secretary of Defense (Acquisition and Technology) on Nov. 17, 1995. As the Principal Deputy, he serves as chief advisor to the Under Secretary of Defense for Acquisition and Technology, and oversees the Defense acquisition programs of the Army, Navy, Air Force, and Defense Agencies. He carries out his duties through the Defense acquisition process, including the Defense Acquisition Board and Defense Acquisition Executive Summary Program.

Prior to his appointment by President Clinton, Longuemare was Vice President and General Manager of the Systems and Technology Divisions at the Westinghouse Electronic Systems Group in Baltimore, Maryland. Since joining Westinghouse in 1952, he worked in design and development engineering, line positions, and project management. He played a leading role in the development of modern radar and avionics systems for airborne and land mobile applications. He has been heavily involved in Low Observable/Counter Low Observable programs, and recently took a leading role in successfully applying Defense technology to non-DoD applications.

Longuemare holds eight patents and 17 patent disclosures, and was active in technical and industrial societies in the aerospace field. He was Chairman of the Aerospace Industries Association (AIA) Technical and Operations Council, the AIA Key Technologies Thrust, and the Advanced Sensors Technology Panel. He was also Chairman of the Computer-aided Logistics Support and Concurrent Engineering (CALS/CE) Steering Group for the National Security Industrial Association (NSIA).

Previously, Longuemare served on numerous panels for the Defense Department, and was a member of both the Defense Science Board and the Air Force Scientific Advisory Board.

He graduated from the University of Texas — El Paso (B.S.E.E.), the Johns Hopkins University (M.S.E.), and the Stanford University Executive Program. Longuemare, a registered engineer in Maryland, resides in Ellicott City, Maryland, with his wife, Julie. They have one daughter, Maria.

was instrumental in really pushing this effort, so certainly he understands the process and would be able to step right in and do a good job of pursuing it.

But I'm hoping that we can just continue with Dr. Perry, who has been the real father of this effort, and has done a wonderful job of leading the Department.

LeBoeuf: Let me turn, if I may, to my own pet peeve—the technical side of the house. Your background is engineering, and includes extensive experience in the private sector. Like many others on Dr. Perry's team, in the inherently political process of reform today, why is it that technocrats—if you'll excuse the expression since I'm an engineer myself—seem to be succeeding so well?

Longuemare: Gib, I'd say it really relates to the nature of the business we're in. Maybe decades ago the Department of Defense might have been worried about some fairly straightforward things, but in today's environment almost all of our weapons systems are incredibly complex in terms of utilization of the latest technology. Our whole approach depends on technological superiority in order to do the job, so I think it's fundamental to the whole process. I can't imagine people without a strong technical background being able to do a good job in the decisions we have to make. It's fundamental to the issues.

Fortunately, many of the people that have been brought in not only have a technical background, but also a good business background. And, of course, a good part of acquisition reform deals with how to change our way of doing business. But I think it's a combination of both the technical aspect of it as well as the business experience that is of real importance.

LeBoeuf: Let's discuss the DoD 5000 Series. It has now been revised. It's issued and on the street. But, of course, in March of '94 it was still a work in progress. Could you give us a report card on its effectiveness to date?

Longuemare: The 5000 Series, of course, started out with a lot of good ideas, but in terms of detail it was a relic of the past because it was pretty much a "telling people how to do things" type of document. It was also very large and complex.

The new 5000 Series has streamlined that down to a very readable and workable document that gets down to the essence of the situation. And as a result, I think people now have a much better understanding of what the real intent is. I see a growing number of examples now of how the streamlined 5000 Series clarifies the acquisition reform initiatives and how it's being picked up and used by more and more people. It's being embraced now by a much greater number of people down in the lower levels of the organization who can now understand more of the comprehensive picture than before.

LeBoeuf: Well, it certainly has helped enhance in streamlining the acquisition process, in my opinion. Let's go, if I may, to some of the old "rap" on DoD—that we paid for technology that failed to materialize, whether we were successful with programs or not. It's now said that the Department gets what it pays for, but that the nation is looking for a peace dividend, and it needs that more so than it needs other weapons systems.

As an individual with one foot in the acquisition door and the other one in technology, how would you make the case for reinvestment? Given the political will, do you feel that our present lead in technology is sustainable?

Longuemare: Well, number one, Gib, I think we have to make sure that we sustain our technological superiority because if we don't do that, we're certainly not going to make it up by quantity. The future is going to depend even more so on maintaining that lead. And the important thing, then, is to invest in the right technologies in the right ways to maintain that lead. So that's not even an issue. We really have no other choice.

...the ACTD process is, from my viewpoint, a roaring success. We have a large number of these programs running now, and virtually every one of them is doing very well.

Given the fact that we have such a set of different priorities than during the Cold War, there are other pressures besides defense that are putting demands on the country. We have to figure out more credible ways to do this job with less money. And the obvious answer is that we have to depend to a much larger degree on the commercial sector, and also to some degree on our international partners to provide the investment that needs to be made in terms of keeping the technological edge. So the so-called dual-use ap-

proach, I believe, is a very key factor that we have to emphasize.

LeBoeuf: Concerning IPTs or Integrated Product Teams—one of the top acquisition reform initiatives today that some say is replacing concurrent engineering. Do you see savings and improvements that you can share with us and any lessons learned that have come out of the IPT process?

Longuemare: First, Gib, I would take a little issue with the thought that concurrent engineering is being replaced. Actually, in reality we're embracing concurrent engineering under a different name; it's really Integrated Product and Process Development or IPPD. And the whole concept of the IPT, which is now emphasizing IPPD, is putting into practice concurrent engineering.

As you know, the concept of concurrent engineering or IPPD, which in reality is the more encompassing approach, is to take all of the relevant players, get them together at the beginning, and use them as a team to come up with the best solutions to the problems. And the idea is to do it early on, in the beginning, in an inclusive way as opposed to after the fact in a serial manner. So I believe that we're now beginning to do very well in this area.

There are a large number of pay-offs that are associated with the IPT process. For example, approximately 75 percent of our Defense Acquisition Board (DAB) meetings now are not required. I believe something like 33 or so DAB meetings have been scheduled, of which we only held about nine. Some 24 formal DABs were canceled because they weren't necessary, since the issues had been solved ahead of time. We've processed the majority through the so-called paper DAB process.

LeBoeuf: And the IPT process you feel has really revolutionized how we tackle the tough issues?

Longuemare: The IPT process has allowed these problems to be worked

out ahead of time instead of bringing them to the top-level meetings. So this has two effects. One is the problems are solved early on, but also we're doing problem solving much more rapidly. This reflects the new oversight attitude of trying to find ways to help a program succeed rather than merely finding where the problems are after the fact.

LeBoeuf: Currently, the Navy has the F-18E/F, the Air Force is fostering the F-22, and of course there's the Joint Service Strike Fighter. All these are next-generation fighters that are going to have enhanced stealth capability and even smarter weapons. How might acquisition reform reduce their cost and efficiency and still provide us with these better equipped aircraft?

Longuemare: Gib, I think this is a good illustration of what I talked about in the beginning; that is that acquisition reform is streamlining work and stimulating more efficient ways to do things. Contrary to what some people might think, it actually ends up in having better products. And of the programs you mentioned, every one is an example of how this is being put into practice.

The F-22 program, for example, has achieved substantial cost avoidance despite budgetary changes and schedule stretch-outs. There are other examples, like the F-18E/F program. That's a great program. The Navy announced recently that they have completed their milestones ahead of schedule, they're within cost, and the airplane is below its weight bogey. It's a great program, and all of it is due to application of new management and oversight concepts.

LeBoeuf: Speaking of new concepts, let me turn to ACTDs, or Advanced Concept Technology Demonstrators. That was considered new in 1994. One of the major initiatives of the current administration has been to streamline the time it takes to move a system from development to get to the warfighter. The ACTD program is advertised as one way to accomplish this.

However, there are some anecdotal rumblings that the Predator program is having some problems now that it's time to go into production. Can you address this and comment a little bit about that process?

Longuemare: Gib, I'd say, first of all the ACTD process is, from my viewpoint, a roaring success. We have a large number of these programs running now, and virtually every one of them is doing very well. I think the concept has now been well proven, and it's starting to gain a lot of momentum within the Department. There are more and more people climbing on board recognizing the advantage of this concept.

The idea of an ACTD really is to take proven technology or at least emerging technology that's fairly well along, and find out if it has warfighter relevance. It also allows us to get something in the field rapidly to determine if it has value, and provides residual assets that can be left there to be used by the warfighter when the tests are over. In most cases, it turns out these concepts are indeed very useful, in which case we would then proceed to go to production.

The Predator unmanned aerial vehicle is one of the first systems that is going through this transition from ACTD into production. We've used this as a learning process, figuring out how to best make this transition. We're learning some lessons from Predator and are now applying this to other ACTDs. We've learned that we need to have a parallel process going on for any ACTDs that appear to have some promise of moving to the next phase. After you get into one awhile and figure out that it may well have enough advantages to proceed to the next step, then a parallel effort is needed to examine what needs to be done in the program to ready it for production.

Predator has been very successful, but as you might expect, the ACTD is analogous to a production prototype. It

has the best ideas embodied in it that people can think of to go out for that first try. But, of course, as with a prototype, the purpose is to find out how it works and then, inevitably, you find areas where it can be further improved. Now that we've been using Predator in the field, we're in the process of making sure that we understand the total requirements, and are adding some features that are important for a larger buy.

LeBoeuf: I think you've already answered the next question I was going to ask you— have we ever stopped any acquisition systems because an ACTD wouldn't work?

Longuemare: Well, as a matter of fact, there is one. As an aside, let me just digress a minute on that point. The fact that we have only one ACTD that didn't go anywhere shows that we have been pretty selective so far, but it actually might mean that perhaps we're not reaching far enough.

The one example to date where we have indeed started and then stopped, is the boost phase intercept anti-ballistic missile interceptor ACTD. The idea was to have a kinetic energy missile that would go out and attack anti-ballistic missiles as they are in the early phase of flight following lift-off. The problem we uncovered after getting into the program and getting the users involved in looking at the overall requirements and the CONOPS turned out to be one of economics. It was technically feasible to do it, but the numbers of systems required and the numbers of aircraft required were so great that it was economically impractical. Now this is something that wasn't obvious in the beginning. It showed the merit of the ACTD concept because it got the operators involved early on. When they got into looking at it, we got away from the pure technical aspects and found out that from an operational viewpoint, it really didn't hold together. So we stopped the kinetic energy ACTD. We've since, however, started a related ACTD which uses an unmanned aerial vehicle with a kinetic energy weapon to do this job.

So we're now looking at a variant of the original concept to get around the CONOPS problem.

But I think that's a great example of how the ACTD process came to an early conclusion that the particular idea was not feasible. We didn't waste a lot of money, we found out early on, and now we've redirected the program toward a more promising approach.

LeBoeuf: It almost seems to me that that in itself substantiates the concept of ACTD.

Longuemare: It does. And I can tell you from the user's viewpoint, the idea of getting warfighters involved earlier and understanding how these new ideas can be applied allows the users to come up with their own ideas on how to better alter their CONOPS to take better advantage of new innovations.

LeBoeuf: Let's turn to acquisition reform successes. Are we taking better advantage of investments in technology created in the private sector, particularly applying available off-the-shelf hardware and software?

Longuemare: I see a growing amount of that, Gib, in almost every sector, but I think it's particularly true in the area of information technology. One of the best examples I know of is a program we started in the fall of last year; it's called the Joint Broadcast System. We had some people go to Bosnia to look at the command and control situation over there. When they reported back, we concluded that it would be very useful if the chain of command had more immediate availability of both reconnaissance and intelligence data. People at DARPA, DARO, and DISA got together, using an ACTD-like approach, and pulled together a wideband communications system using commercial-off-the-shelf (COTS) hardware and software. They did the entire job in about 14 weeks—an incredibly short time for such a complex system. For example, a Predator Unmanned Aerial Vehicle flying over Bosnia can

> **The systems-thinking approach is fundamental, because it says instead of looking at all the nuts and bolts of the process, it asks, "What is the overall intent? What are we trying to achieve, and what are the steps that will best help us get there?"**

now send real-time imagery to the command structure using the Joint Broadcast System. The signal travels through a rather complex system that involves microwave-links, satellite-links, fiberoptic-links, back to the

United States, and then back over to Bosnia using additional satellite links. This is all done by and large using commercial equipment, including some commercial satellites.

The significance of COTS hardware and software was brought home to me by a demonstration of this system to Dr. Perry shortly after it went into action. We have the capability here at the Pentagon to see this real-time imagery that is being taken in Bosnia. The key thing to me was seeing this equipment being demonstrated to the Secretary of Defense by, I believe, an Air Force E-4, who had been introduced to the console only a day or so earlier. The reason why this young man learned how to use this system, so quickly and so well that he could brief the Secretary of Defense, is that it was essentially a COTS item. This person already knew how to use computers, and learning this new routine was second nature to him.

So here's something that got put together in an incredibly short time, fulfilled a real need, and was easily assimilated by a user. And the fundamental reasons for most of this success were 1) a bunch of bright people working together; and 2) instead of developing government-unique hardware at great expense and time, they put COTS hardware and software together, and made that into a first-class working system.

The number of examples of using COTS in other areas continues to grow, but I think this is clearly the wave of the future.

LeBoeuf: Let's talk about the role of a program manager. The conceptual role required of a government program manager and the engineers in the IPT process may really pose a cultural shock to the more detail-oriented among us. I can probably attest to that. What advice would you give for those moving from micromanagement to a position of "trust and verify"? How important to this transition is the systems-thinking concept promoted at DSMC, for example?

Longuemare: Let me answer that question this way. We have to be careful to recognize that when we're moving to more streamlined management approaches, it doesn't mean that we are dismissing technical discipline from the process. So, quite the contrary, technical discipline is still required. In fact, if anything, there needs to be more discipline in the process. That means in certain cases you might actually do some micromanaging of the truly important items. But good, disciplined management should not be confused with the old traditional oversight approach. Let me explain.

I think the biggest change is getting rid of strict oversight and replacing it with the concept of team action, with the primary goal of doing everything possible to make the process succeed, to make the program succeed. It is that change and shift in the mindset of the program manager and all the team members that really counts. People are now working together to make a success out of a project as opposed to primarily finding what's wrong with it. That is the biggest change. This is a cultural change that people will have to get used to, but I'm happy to say that I think it is working. Most people who are involved in it now like this approach a great deal more, and it's really happening.

The systems-thinking approach is fundamental, because what it says is that instead of looking at all the little nuts and bolts of the process, it's asking, "What is the overall intent? What are we trying to achieve, and what are the steps that will best help us get there?"

LeBoeuf: I'm glad to hear you say that. I really concur 100 percent with you on that. I think unfortunately a lot of the folks today don't really understand the concept that you just described. That we really, in my opinion, cannot lose sight of the technical details, so to speak, as the program managers go about managing their programs on a day-to-day basis.

Longuemare: You're right. The idea of relaxing some of the regulations and getting away from MILSPECs, getting away from all these specifications and standards, doesn't say that you no longer have to worry about making a quality product or having the right kind of checks and balances in the process. If you look at the commercial sector, you'll find that they are very disciplined in what they do. In fact, they may be even more strict about some things than we were, but they do it in an intelligent way. And the idea of moving to performance specifications is so important, so fundamental to this. Instead of specifying all the design details as part of the requirement, we now talk about the total warfighter requirements and then allow the designers and others at that level the flexibility to configure the details so that they can meet the warfighters' true needs. That's the biggest shift, and I think that's where many people are having trouble because they were very comfortable with the idea of having all these details spelled out. It didn't require the level of initiative or thinking that it now does. So you say to industry, "Hey, your job is to go figure out all these details. All I want you to do is deliver the right product that meets these fundamental overall capabilities."

LeBoeuf: Let's talk about a part of the educational reform you mentioned in Program Manager magazine—that getting the requirements people in the same classroom with the acquisition people would be a major improvement in the planning process.

Are there any plans to do a class or a symposium or seminar where people could be brought together in an non-attribution setting to work out their differences and gain appreciation other than the IPT process? There seems to be a great demand for education and training about this whole process. Would you comment a little bit about that?

Longuemare: Let me digress in a couple of ways from that. For one thing, the need for more and better training and education is extraordinarily high because of the changes we are making. As I have mentioned in many of my speeches before, what we need to be thinking about is how to "educate" people as opposed to "training" them. We want to give them the basic fundamental knowledge of what needs to be done, and then allow them to use their own judgment and intellect to apply that to specific examples.

The second point speaks to the importance of co-locating the requirements people together with the acquisition personnel in the classroom. That is a very important change that we need to institutionalize here in the Department to bring our requirements process more in line with budget realities. As of this point, there's still quite a chasm between the people who determine the requirements and people in the acquisition community. That's starting to get bridged now. General Ralston has been very supportive of getting these communities together. I think it just stands to reason that we will do a better job if the people who are doing the requirements are fully cognizant of the constraints and concerns of the acquisition community at the time that they're being generated. You'll end up with a better, more balanced set of goals that will better fit both the warfighter's needs but also the budget that's allocated.

I think the classroom is a great way to have people from both communities interact in this non-attribution setting to better understand what each other's problems are. When they go back to the real world outside the classroom, they will be more aware and more likely to want to work together.

I believe that there are some plans afoot under Colleen Preston's leadership to have some interactive remote learning sessions to further expand on the classroom.

LeBoeuf: Continuing on with acquisition reform, Mr. Deutch worked very hard (as you have), and Dr. Perry also, in removing barriers between the Pentagon and, of course, the Congress by trying to be more open in the early stages with what the Pentagon was doing and why and so

forth. How has that paid off in your opinion?

Longuemare: Gib, I think that has paid off in spades. As you know, here again Dr. Perry set the tone early on to open the kimono to make sure we had a very open approach in dealing with the Congress. And that was certainly espoused by John Deutch and by his successor, Dr. White. In particular, Paul Kaminski has just made a special point of being very responsive to Congress, answering their questions, trying to anticipate needs, and briefing them ahead of time. As a consequence, I think that's paid off in spades in terms of the successes we've enjoyed in the Acquisition Reform legislation—the FASA and FARA legislation, in particular—which set the stage for the new 5000 Series. This is the first major change that's occurred since the early 1970s, going back to the days of David Packard.

LeBoeuf: You have previously stated that the private sector is much faster at fielding a product for itself than the government, due to the government red tape, if I may use that term. Has acquisition reform shown specific signs of shortening the life cycle, and what have been some of the pay-offs?

Longuemare: We've seen real improvement in that area. I think the example cited earlier about being able to field the Joint Broadcast System in about 14 weeks is an indicator. I think it would probably have taken us two years to do it under the normal system, and we probably would not have had nearly as good a result. Also, it would probably have cost 10 times as much. That's just one example.

But the whole idea of circumventing much of the old, classic acquisition process has paid off in a large number of programs: the JDAM program is one; the F-18E/F is another example. Replacing the Joint Tactical Information Distribution System (JTIDS) with the smaller, more reliable MIDS equipment is a great example of all of these initiatives coming together. And most

> ## What we've done is to empower people to take a great deal more responsibility and give them an opportunity to use their initiative. And I think this is having a real effect.

importantly, the reduction in cost has been quite impressive.

LeBoeuf: One final question for you, sir, if you could expand on this. What would you consider the most beneficial acquisition reform initiative that you would be most proud of and the effect that it's had on A&T?

Longuemare: Let me not restrict it to one thing, but I'll be happy to name a few. In my view, the one that I'm most proud of is Cost As an Independent Variable (CAIV). I think CAIV is one of the most fundamental methods for making major reductions in the cost of our equipment, but at the same time providing better products. It's one of these rare situations where you get factors of two- and three-to-one reduction in cost, and you get at the same time a better product. You don't have that opportunity very often.

The Single Process Initiative—I haven't mentioned that, but it's certainly a great success story. Dr. Perry formally announced it back in December of this past year. We're eight or nine months into the process now, and we have just an enthusiastic response. Industry has really jumped on board. We have about 50 or so as of today. About 100 different companies have submitted over 300 proposals, and the numbers continue to grow. Over 70 have been approved, with over 85 percent being implemented as block changes. This is a great success story.

Another aspect of our reform efforts that I'm also very proud of is the impact it's had on the workforce. I see great vitality now in the acquisition workforce here. What we've done is to empower people to take a great deal more responsibility and give them an opportunity to use their initiative. And I think this is having a real effect. You just have to look around and you'll see a lot of people with a great deal of enthusiasm for what they're doing. There's a lot of good results here. I think has probably been the most upbeat part of our efforts.

One of the measures of our success will be when we look back on how well we have been able to institutionalize these changes. If you look at the number of individuals in the career workforce who have really bought into this, and are now out championing it, it's pretty large, and that's why I feel this will be one of our proudest accomplishments.

LeBoeuf: I couldn't agree with you more, Sir. I think when you look back at many, many folks in different administrations trying to change the way we do acquisition, in my 28 years of being in the system I have to say that you should feel very proud because this team, working with Dr. Perry's team, has really made the change.

Longuemare: It was definitely a collective effort. No single person has done it all—it is just a whole team process of which we can all be proud.

Colleen Preston on Acquisition Reform

"The Most Critical Factor That Faces Us—Completing That Process of Cultural Change"

"Anything is possible if you're willing to work hard enough to get there." That sage advice from her mother served Colleen Preston well and steadied her in her rise through the executive ranks of the judicial system and government. She has since added her own modicum of wisdom to her mother's admonishment: "Anything is possible; it's only a matter of figuring out the best way to approach it."

Now serving as the Deputy Under Secretary of Defense for Acquisition Reform, Preston realizes more and more that *approach*, in many cases, is as important as the end result because, "It's going to mean the difference between whether or not people will try to achieve that end result long after you're gone."

Preston, sworn in as Deputy Under Secretary in June 1993, took on the monumental task of implementing and institutionalizing Secretary Aspin, Dr. Bill Perry, John Deutch, and Dr. Paul G. Kaminski's Acquisition Reform initiatives. Cutting through red tape; eliminating inefficiencies; drafting revised legislation to eliminate cumbersome, complex, burdensome government regulation of the acquisition system—all were once thought unachievable. That is, until Perry teamed with John Deutch and subsequently, Paul Kaminski, Noel Longuemare, and Colleen Preston to actually produce results and implement reform.

A self-professed "plagiarizer," she readily admits that she takes every day

COLLEEN A. PRESTON, DEPUTY UNDER SECRETARY OF DEFENSE FOR ACQUISITION REFORM, IS INTERVIEWED BY ARMY BRIG. GEN. RICHARD A. BLACK, DSMC COMMANDANT, FROM HER PENTAGON OFFICE ON AUG. 22, 1996.

as a day that she learns from other people and the feedback and information they provide her. "I hope I've been able to assimilate that feedback and information in some fashion, and been able to lead people in a direction based upon the input that they've given to me. *But the ideas are not my own.* They are things that people have shared with me." One senses her pride in the people who—now unencumbered by much red tape—are producing results that many in government acquisition circles said could never be achieved.

Awarded the Bronze Palm to the Department of Defense Medal for Distinguished Public Service in May 1996, Secretary of Defense William J. Perry cited her for "dramatically changing the way the Department of Defense procures goods and services, from reducing workload of procurement per-

Photos by Richard Mattox

sonnel, to leading the efforts to reform, streamline, and reengineer the acquisition processes to meet the needs of the nation's warfighters. She has made significant and lasting contributions to revolutionizing the Department's acquisition processes."

Preston spoke to *Program Manager* from her Pentagon office on Aug. 22, 1996.

Black: *The first thing we want to do is talk a little bit about your background, both educational and professional, that led to your appointment to this position. We're particularly interested in the time that you spent in the Air Force and the time that you spent on the Hill.*

Preston: As you know, I was with the Air Force General Counsel's Office for four years. I had an active duty commitment from ROTC and was fortunate enough to have been selected to come to the Pentagon. It was a great experience and something that no one should ever pass up.

While I was there, I ended up having to write a lot of the responses that the Air Force used in discussions back and forth with staffers on legislation—constituent protests, and things of that nature. But then I realized, "I don't like being the recipient of all this legislative direction." And I kept thinking, "You know, who's advising these people?" I decided I wanted to be on the other end of the process. I wanted to be in on the development of direction to the Department as opposed to reacting to what Congress has said.

About that time I found out that one of the people I dealt with on the Hill was leaving her job. Mary Ann Gilleece was coming to the Pentagon to be the Deputy Under Secretary of Defense for Acquisition Management. I went over to the Hill to ask for her job—it's probably the first time I've ever done that—asked for an appointment, met with her, and said, "You don't remember me, but I think I'm the perfect person for your job." So I managed to talk her, and then the staff director, and finally the Chairman of the Subcommittee into it, and that's how I ended up on the Hill. I spent 10 years there with the Investigations Subcommittee and subsequently moved up to be Assistant General Counsel and then General Counsel, all the time continuing to work acquisition policy issues.

Black: *Regarding the work that you did on the Hill as a Congressional staffer and the advisor to the Committee, how much*

information and how much time did you spend working Acquisition Reform issues while you were there? Your work on Acquisition Reform really got started during that period of time, wouldn't you agree?

Preston: It definitely did. And I'll tell you that I spent an enormous amount of time on Acquisition Reform issues, even when I became the Committee's General Counsel. My deal was, when I took over as General Counsel, I guaranteed I'd spend eight hours a day doing General Counsel work, and then anything else I did was on my own time—that was okay. So I definitely did not give up Acquisition Reform during that time—although I had a lot of help.

Black: *As you look back now on those experiences and relate them to the job that you had to do here, how has that background helped you in doing this job?*

Preston: It's been invaluable because, as I've always said, one of the greatest parts of that job on the Hill is that people were willing to share with you. Every expert in the world that I ever wanted to talk to was willing to come in and give me the benefit of their advice and their experience. And I would go out "to the field" and ask people how things were working and what bothered them. So all I had to do was sit there and listen and just really make sure that I got both sides of the story. But in terms of experience, there probably could be none better than that. I mean, what better situation to be in than to have every expert in the world come—from working level up to CEOs of companies—willing to come in and tell you exactly what needed to be done.

Black: *When you were appointed to the position as the Deputy Under Secretary of Defense for Acquisition Reform, your current position, how did your background influence your approach to the job in terms of Acquisition Reform? Were there discussions between you and Dr. Perry as to what the two of you wanted to try based on his experience and yours?*

Preston: You bet. Dr. Perry was just incredible. At that time, as you know, I

COLLEEN A. PRESTON

Deputy Under Secretary of Defense (Acquisition Reform)

Colleen A. Preston is currently serving as the Deputy Under Secretary of Defense for Acquisition Reform, responsible for reengineering and improving the acquisition process by directing the conception, development, adoption, implementation, and institutionalization of new and innovative acquisition policies and processes. From Jan. 22, 1993, until assuming her current position on June 24, 1993, she was the Special Assistant to the Secretary of Defense for Legal Matters. Prior to that appointment, she was the General Counsel, Committee on Armed Services, U.S. House of Representatives. From February 1987 until her appointment as General Counsel in December 1989, she was the Assistant General Counsel. Prior to her stint as Assistant General Counsel, she was assigned as Counsel with the Investigations Subcommittee.

Since joining the Committee in 1983, she has been the primary legal advisor on procurement policy issues and related legislation. She participated in the development of numerous acquisition improvement measures, such as the provisions adopted as part of the annual National Defense Authorization Acts (including the Defense Acquisition Workforce Improvement Act, the Defense Procurement Improvement Acts of 1985 and 1986, and the Defense Procurement Reform Act of 1984), the Small Business and Federal Competition Enhancement Act, and the Competition in Contracting Act.

From 1979 to 1983, she was an attorney/advisor in the Office of the General Counsel, Secretary of the Air Force. In that position, she formulated and provided legal guidance to the Secretariat and Air Staff on acquisition and regulatory issues, defense of contractor protests, and acted as Counsel to the Air Force Contract Adjustment and Debarment and Suspension Boards.

Prior to joining the General Counsel's Office, Preston was a law clerk/associate with the firm of Akerman, Senterfitt and Eidson, Orlando, Fla.

Preston received both her B.A. in Political Science and her J.D. with Honors from the University of Florida, and her Masters of Law, with emphasis on government contracting, from Georgetown University. She attended the Program for Senior Executives in National and International Security at the John F. Kennedy School of Government, Harvard University.

Preston received the Department of Defense Distinguished Civilian Service Award in September 1994, followed by a Bronze Palm to that award in May 1996. She is also a four-time recipient of the *Federal Computer Week* Federal 100 Award.

Preston is a member of the Florida Bar; the Public Contracts Section, American Bar Association; the Board of Advisors of the National Contract Management Association; and serves on the Defense Systems Management College Alumni Association Board of Directors.

was over here as the legal assistant to the Secretary of Defense and, frankly, had not even contemplated working Acquisition Reform. I expected to go back into the legal community.

But in talking with Dr. Perry and Mr. Deutch as we went through the confirmation process, and based on some dealings with Dr. Perry previously, it was obvious to me that they were so committed to Acquisition Reform that if there was ever a chance for it to succeed, this was it. I then sort of stuck my nose in where I probably shouldn't have and wrote a lengthy memo to them saying, "Here's what I think you need to do if you're really serious about going through with this." What I said must have been consistent with what they were thinking because we started to discuss the possibility of creating an organization and how we would best go about accomplishing Acquisition Reform.

But I would also say that one of the most critical things as we looked at how to approach this process was that Dr. Perry and I had a clear understanding that people in the process were not the problem—we had one of the best acquisition workforces in the world—but that the system of rules and regulations was precluding them from doing the best job they could. People had to fight the system in many instances to be responsive to the customer and make the best decisions they could. And it wasn't so much as people had portrayed it initially—that the system was broken. The fact that we were able to do what we did in Desert Storm is a testament to the fact that we developed the best weapon and support systems in the world. It is that the system, despite almost constant efforts to improve it over many years, has not been able to keep up with external changes that made a reengineered system necessary.

Dr. Perry said, and I agreed, that what we needed to do was to unshackle people, to let them do their jobs in a way that made the most sense. And that was consistent with everything

that I had seen over the course of my 15 years in the Pentagon and on Capitol Hill. There was a commitment out there to the job, to do it right, and that, if anything, rules were an encumbrance and, in some cases, an excuse for doing things a certain way when it often didn't make sense.

Black: Acquisition Reform was certainly one of the toughest things going on because the budget drives this building [Pentagon], and where we have the most discretion is with research, development, and acquisition funds. Given that, what were some of your concerns or how did you approach the management of making that change to that acquisition system?

Preston: I think probably one of the most difficult things—certainly for Secretary Perry because he was very anxious to come in and get things going—was developing the strategy that, unlike past reform efforts, our initiatives would be developed by people on the front lines and that we would not issue edicts from on top. In addition, we wanted revolutionary change, and we wanted to completely reengineer a process once we took it on. When we started to look at an area, we wanted to start with a clean sheet of paper and not be encumbered by boundaries on what people would think about in terms of solutions. We had to do it in a systemic manner, and the best way to do that was to establish Process Action Teams or Working Groups and let them make recommendations on how to change the process to implement the things that Dr. Perry saw as imperatives.

Probably the best example of that strategy in action is Military Specifications and Standards. Dr. Perry could have, very early on when he was the Deputy Secretary of Defense, issued a memorandum stating that, "From this day forward you will not use Military Specifications and Standards." He believed and I believed that it was very critical, instead, that we have a Process Action Team made up of people who were dealing with these issues on a day-to-day basis and let them make recom-

We wanted revolutionary change, and we wanted to completely reengineer a process. When we started to look at an area, we wanted to start with a clean sheet of paper and not be encumbered by boundaries on what people would think about in terms of solutions.

mendations on how to implement or achieve this objective. Use of commercial specifications and standards had been pushed for many, many years. In fact, it had been in law for five years that there was a preference for commercial specifications and standards. As the team worked, we came to realize that the more important thing was the preference for *performance* standards rather than simply shifting from military specifications and standards to commercial.

But the most important part of that process was to find out why it was that people on a day-to-day basis were not making the change. What disincentives were there? Was it a lack of incentives? There were many, many disincentives that the team addressed and we have had to work through. I'm not sure that we've worked through all of them yet.

Black: What was the management scheme that you would use as an approach? You alluded to it, but I want you to elaborate, if you will, using the Oversight and Review of Major Systems Process Action Team.[1]

Preston: Basically, what we did was we said there are certain issue areas; we would prioritize them based on the need for change, what impact we'd get out of change, and how much resistance there was going to be to the change.

We started off initially with following up on the Section 800 Panel recommendations because we believed that we had a one-time opportunity to take advantage of what the panel recommended and we had a receptive Congress. So we made that the initial thrust. For the first year we practically did nothing but focus on that legislative effort day-to-day. We just couldn't spend enough time trying to get that all together, to get consensus within the Department, within the government as a whole, the Executive branch, and then convincing the congressional staff and members that this was the right approach. So we spent a tremendous amount of time on that because we felt like we had a one-time shot.

Then we started working the Process Action Teams, and we worked the ones that we believed were most critical. We started with electronic commerce because that was critical to our ability to get the simplified acquisition threshold increase. And we had to know what we were capable of doing within the Department in terms of electronic commerce before we could make commitments that Congress

wanted us to make in return for increasing that threshold.

Then, of course, one of Dr. Perry's primary objectives was to deal with the Specifications and Standards issue, which we took on as our second Process Action Team.

And then in terms of priorities, we looked at contract administration, the procurement process, and one that you had mentioned, which is oversight and review of the systems acquisition process. That particular PAT process was very difficult because it focused on the relationship between OSD and the Services in terms of oversight. It's a lot easier to talk about our oversight of industry, but when you get into the interpersonal reviews that occur within the building [Pentagon], it's much more challenging.

Black: One of the things that I think I have been aware of and I've heard a lot of other people say is that these are probably the most close-knit, cohesive, and focused groups of DoD executives in the Pentagon in recent time. I mean the team of Dr. Perry, Dr. Kaminski, earlier Mr. Deutch, the Service Acquisition Executives—Gil Decker, John Douglass (who assumed the position held by Nora Slatkin), and Art Money (who assumed the position vacated by the late Clark Fiester)—that we've seen in a long time. Has that helped in the Acquisition Reform process?

Preston: That has made all the difference in the world—there is no question. I've never seen anything like it. People will look back on this and marvel I believe. I was here in 1979, although not as a political appointee. Even at my level, seeing the transition with the Carter administration to the Reagan administration, and then looking at it from the outside as an observer from the Hill (I worked very closely, obviously, with all the political appointees irrespective of the administration), I can honestly say and I think most people would agree, even those who preceded us in these positions, that we have been so fortunate to have that cohesiveness in terms of the appointees.

I won't tell you who said it but at one time when I was on the Hill, I was privy to a conversation with a group of members where the Secretary of Defense at the time had come over to respond to some of their concerns. In talking about a particular Service Secretary he said, "Well, you know, I can't do anything about that. He's his own man." That statement was so striking to me—but it was true and everyone knew it.

The difference with this administration is that not only is there cohesiveness between the Service Secretaries and the Secretary of Defense, but it is followed by the Under Secretary of Defense for Acquisition and Technology and the Service and Component Acquisition Executives. There is an incredible closeness. They work at it very, very hard, and it shows in everything we're doing.

Black: It certainly does, and it's apparent to the field that that this kind of thing is occurring as the Acquisition Reform policies get coordinated and promulgated. As we continue to look at the work that you've initiated, very successfully, what are some of the major challenges that you see are remaining?

Preston: I believe that the most critical factor that faces us is completing that process of cultural change. As I said, we first prioritized the actions depending on what we thought we could accomplish and the payoff involved. We wanted to do Acquisition Reform in a different way. We wanted to use the Process Action Teams as the jumping-off point. We knew from the very outset that the most critical factor that we had to deal with was institutionalizing the process of change. We knew that we had 20 years of people trying to implement Acquisition Reform with varying degrees of success. And, in fact, I've always been very proud of the fact that you could look to the Department of Defense and say we had been continuously improving the process.

But we believed we were at that point where we had such a crisis because of

the budget and the downsizing that we had to completely reengineer, not just incrementally improve. We had to change the way people thought and dealt with the acquisition process, and the only way we were going to be able to do that was to institutionalize a cultural change. I would say we're about 85 percent there, but that last 15 percent is absolutely critical.

Black: One of the things that Dr. Kaminski has said recently was that, "We're at the end of the beginning of Acquisition Reform." He didn't use the word "revolution," but it was somewhat implied. He has said that the new legislation and the new 5000 Series have laid the foundation for what he and Secretary Perry and the rest of the acquisition community here have been trying to do. You mentioned institutionalizing that as the biggest challenge. How do you see us proceeding in the institutionalization process?

Preston: Well, let me say that I think Dr. Kaminski's statement that we are at "the end of the beginning" really captures the spirit of where we are. We have accomplished a lot as a community—the entire acquisition community. People have been working very, very hard.

And I believe institutionalization gets into a question that we've been asking ourselves and that is, what is the role of the Acquisition Reform organization? Obviously, when we came in and started this effort, we were looking at the Acquisition Reform office as something that should go away over time; that it should be the catalyst, and then you institutionalize that process of change.

What I've come to realize over time is that when you look at organizations that have reengineered, while the institution has to buy into it and be supportive of it, there also has to be a continuous catalyst for change. And when you look at real reorganization efforts, you find that while they have been using the institution and making sure that that organization is buying in and actually doing the hands-on work,

they've used an outside consultant to be that catalyst for change. I believe that there is a continuing role for our organization to be involved as that change agent—as that catalyst for business process reengineering—and it will never go away.

Whether it's the existing organization that we have or not is irrelevant. There needs to be some organization or some individual that you can point to and say, "It is your mission to be the catalyst for change," and to just remind everybody that there is support within the organization for change occurring.

Black: Great. One of the things that you mentioned earlier that is certainly key to fully realizing the benefits of Acquisition Reform is to take advantage of the information technology that we can use to give us the ability to do so much more. How do you see the implementation now of the electronic commerce, electronic data interchange, and perhaps if you see it, linking that to everything that a project manager does, including the CALS initiative and the Contractor Integrated Technical Information Service or CITIS?

Preston: Maybe I can best characterize it in terms of the vision that I hoped we would be able to accomplish. I learned a lot from Noel Longuemare in this regard in the discussions that we've had quite often on enterprise integration. It's a fascinating area to deal with, and it's very hard to pull yourself back from getting involved in the nitty gritty of everything that's going on because it's changing so rapidly.

I think it's fair to say that we have not made as much progress as we had hoped to make in terms of the implementation of electronic commerce, electronic data interchange. It is also fair to say that we are looking at EC/EDI from the standpoint of cross-functional integration and the impact now of what one person is doing, say, in the logistics area to take advantage of information technology and how that impacts on the acquisition process. We really have, or need to have, a seamless process from beginning to end, yet our

We have to do a better job of integrating the information systems that we're putting in place so that we take advantage of what we're doing in other areas, learn from that, and avoid duplication of effort.

information systems have not provided us the capability to have that seamless process. I think everyone is attuned to the need to be able to create data once, and be able to utilize it for many, many different areas. We have to do a better job of integrating the information systems that we're putting in place so that we take advantage of what we're doing in other areas, learn from that, and avoid duplication of effort.

And while I've said that it's fair to say we're not where we want to be, by the same token, I think that this is probably one of the best success stories that we can look at. People have said to me—the people who have been involved and working in the Process Action Teams—that they have seen more

change in the last three years than they have in the 20 or 30 years that they've been involved in the process.

If we accomplished anything during the opportunity that I've had to participate in the Acquisition Reform leadership team here, I guess the thing that I'm most proud of is the fact that we have given people the opportunity to do the things that they've wanted to do for 20 and 30 years. The people who really know what is right to do with the system have been able to do that, and we've given them that opportunity. And of everything, probably the most meaningful thing to me is to have them come back and say, "You know, this is something I've wanted to do, and we've now had the opportunity to get it done."

Black: I know that is exciting, and it's a great sense of satisfaction because I can identify with the sentiments that you've just expressed. One of the things that you are looking forward to now is the Heroes of Reinvention Hammer Awards ceremony where some of those people will be able to be recognized by you, Dr. Kaminski, and the Secretary of Defense. Could you comment about the upcoming Hammer Awards?

Preston: Definitely. Because the Hammer Awards ceremony is so important, not only because we're finally able to recognize the work that the Process Action Teams and the FASA regulation writing teams did, but it is the closing of that circle where we said to these people, "We want your recommendations, and we will do our best to follow through on those recommendations."

If you look at every one of the Process Action Team recommendations, you will find that each team actually wrote the Secretary's memorandum that was signed out. These teams did everything and the Secretary, with very few exceptions, and the Under Secretary of Defense for Acquisition and Technology, Dr. Kaminski, accepted—I would say— 99 percent of the recommendations that came out of those teams. And this is the point that we promised them:

Before that ceremony, they're going to spend a day critiquing the Department's implementation of their recommendations, telling us, the leadership, whether or not we have done the best that we could do to follow through on their recommendations and what else we need to do to make sure that those recommendations are implemented.[2]

The most critical part is that each of the teams is going to be able to brief Dr. Kaminski and the senior acquisition leadership of the Department of Defense, and potentially others from throughout the acquisition community within the Executive branch and Congressional staff, on what their recommendations were and how we followed up on those. You know, I am certain that there will be some areas where we have fallen short, and I want that to come out because we need to continue to follow up on that. And if we don't, then we haven't fulfilled our promise to them. Dr. Perry, Dr. Kaminski, and myself in particular, having worked with all these groups, made a personal commitment to these people. It means a lot to all of us.

Black: One of the things that we had been seeing recently in a lot of the reports, studies, and surveys that have been done is recognition of the need that in order to change the culture, there needs to be an education and training process, which is followed through at every level in every career field. You're responsible for the acquisition education and training and career development organization within the Department of Defense. Can you tell us a little bit about that responsibility and where you see it needs to go?

Preston: I would love to because we've all been talking about education and training and how critical it is to everything that we're doing. It is so critical to implementing that cultural change I spoke of, and we've known that from the very outset. Probably one of my biggest frustrations is that we have come a phenomenal way in terms of the Defense Acquisition University structure, Defense Systems Management College, Army Logistics Management College, Air Force Institute of Technology, Naval Post-Graduate School, and the other consortium schools. In addition to that, all of the other elements that we have put together in terms of trying to communicate the message to the field are vital.

We have divided our efforts into three categories. One is awareness training. Two is sort of hands-on practical training. And this is where the Services have really gone out on their own. We've been coordinating with them, but they took the bull by the horns, taking the Army "Roadshow" model as an example. And then we have tried to play a role in awareness training by getting together with the Services in a new and different way in creating education and training materials: the satellite broadcast, the materials that went with them, outlining everything in terms of process, trying to carry that theme through from the awareness, the satellite broadcast, the Acquisition Reform newsletters. We put one out. The Services each put one out. The Components in many cases have guidance that they put out on a regular basis. We have flash E-mail service that we put out called *AR Now*. We've got a Home Page. All of the Services and Components have Home Pages.

The amount of information out there is phenomenal and yet when you go talk to the acquisition community, it's not getting to people down at the working level—it's been one of our biggest frustrations. Some of that is caused by technology problems, in terms of not having the capability to access the World Wide Web, things of that nature. In some cases we're still trying to find out why the message isn't getting down.

Black: Part of the discussions that have gone on with other PMs and the study that has been done by Tony Valetta with 12 project managers indicated that the workforce agrees with you that, as a whole, it isn't getting the information and acting on it. Part of that goes back to the cultural change that you had just described earlier. The cultural change comes

as a result of education and training. And as we have talked of the other facets of acquisition and shortening the acquisition cycle, there is also a sense that we need to shorten the education cycle, or the education and training, to change the culture to make it be receptive to the new initiatives.

Preston: Well, I think we've been aware of that, and I think we've been responding to it and we've been trying to do the right things to make sure that we view the acquisition community as a customer and that all of our education and training looks at, "What are the customer's needs?" I know that you and your team at DSMC have been very involved in that. Defense Acquisition University President Tom Crean has also been very involved in that. And, I think all of the Services have been working toward that goal; that is, how can we get information out to the community better, whether it be through new distance learning techniques that we take advantage of, or bringing the courses to the people in the field, as opposed to having them come in to the schoolhouses. Can we do it through brown bag lunches, which have been used successfully, or sessions during lunch where we've actually done training, such as what has been done at CECOM at Fort Monmouth? Thus far, we've experienced phenomenal success with new ways of trying to take advantage of new techniques to provide education and training in what is a very limited period of time.

Everybody wants training, but they don't have the time. The thing we're working toward, not only within the DAU community, but with its customers, is trying to figure out new ways to approach that; to take that valuable time and make sure that we can get the message out to people through speeches, through talking to them—every single mechanism we can employ.

Black: What would you say are the most critical initiatives to the success of Acquisition Reform that have been undertaken during your tenure, and where would you like to see them go?

Preston: I think the most critical aspect of what we've done during my tenure here is, first of all, something that we've already talked about and that is the approach: the notion that we have to empower the workforce. And as I've said, in some cases we won't have been successful unless people believe that they can change the process within which they work. So if individuals out there who are working on a day-to-day basis in all of these areas don't feel that they can make changes to the process, that they're locked into something that they never have any hope of changing, even though they know it doesn't result in the best decision for the government or the taxpayer, then we haven't succeeded. By using Process Action Teams and other techniques, we are committed to convincing people that we really are listening to what they have to say and what they think is most important.

I think the other thing that has been critical to address is the risk aversion in people. I saw it for many, many years when I was on the Hill. Today, virtually every time I talk to a group in the acquisition community, it comes up as an issue. People typically say, "We would love to think outside the box. We would love to take a chance on a new initiative. But what's the incentive for us to do that or why should we do it when you may not be here three or four years from now, when the IG comes back to audit my program. Right now, in fact, I'm in the midst of an audit on a program or a contract that was executed seven years ago, and now they're questioning the acquisition strategy that was used?" And so I've been very cognizant of that risk-aversion mentality and the need for incentives to change that mentality.

What we've been trying to do is find the right balance of oversight and review. A lot of people will say we need to remove oversight and review. That's not the answer in my mind. Oversight and review has its role. The issue really should be looked at as one of how oversight and review can best add value to the process.

...by using the Process Action Teams and other techniques, we are committed to convincing people that we really are listening to what they have to say and what they think is most important.

One of the biggest successes in my mind has been the work that's come out of the Oversight and Review Process Action Team. Their initial draft report and the counter proposal that came from OSD set the stage for the final recommendations acted upon by the Department—use of Integrated Product Teams, early *insight* rather than *oversight*, where people are working toward a common goal—program success. There were a lot of naysayers who said it wouldn't work, and we're still in the learning stage. But that whole concept of people operating as a team for the success of the program, as opposed to being an oversight function

(either in OSD, DCAA, GAO, or the IG) is a major cultural change.

Another example of changing the process is in the area of cost and pricing data. Even the IG had said that in a review of contracts under $500 thousand, where cost and pricing data were not required, they estimated that in three out of four contracts, cost and pricing data had been requested when it was not necessary. Why do people do that? Because they don't want to take a chance on being second-guessed later on.

How did we tackle that? We said we can change the "presumption" in the regulations. In fact, one of the FASA regulation writing teams that I am most proud of, tackled this very difficult issue. They thought outside the box, and came up with an incredible change that we will see the ramifications of for years and years to come. That is, they switched the presumption from one of "get cost or pricing data unless," to "you don't get that in cost or pricing data unless." No longer is the burden on the contracting officer to justify why they did not get cost or pricing data. The only reason to require cost or pricing data is to establish a fair and reasonable price. If we can determine what a fair and reasonable price is by any other means, we should do it. The last alternative is to get cost and pricing data. That change in presumption provides people the cover that they need to now make the right decisions without fear of being second-guessed.

Another project we have that will have a fundamental impact for years and years to come is the creation of the Acquisition Deskbook. The reason that it is so critical is that it gives us a number of things. One, it gives us an opportunity to restructure our regulatory system. We've done that in the model; we have a model now with the DoDD 5001.1 and DoD 5000.2 regulation rewrite where we took what was a set of documents that were over 1,000 pages long, and the working group culled that down to a little under 150

pages of things that were mandatory. The rest of it was all guidance to people. Before, when it was in the old 5000 Series, people were afraid to deviate from it.

Now we've got it in a Deskbook format where we say, "This is all discretionary." We make it clear it's discretionary. And what we hope to do is come up with so many examples of things that are acceptable practices that people feel comfortable saying, "Yes, I have to tailor my acquisition to the circumstances that I find—not tomorrow, not yesterday, but today," because those circumstances are different than they were yesterday or 10 years ago, and they're going to be different tomorrow. That is a legacy that I hope we will leave and something I think is very, very critical because it, again, shows people that we mean it when we say we don't want their decisions to be second-guessed. It's a tool where we can give them that cover that they need to make the appropriate decision and not be second-guessed by someone.

Black: One of the things you first said prompted two thoughts: first was getting people to use their judgment when making decisions about the program. In other words, tailoring the acquisition regulation and guidance to fit the program. The second thought was something I recently heard from a master carpenter. He said, "The difference between an amateur and a professional is the professional can not only use the tools at the appropriate time and place, but the other mark of a professional is that when he makes a mistake, the professional usually finds it sooner and knows what to do to correct it." And that's a result of education and training and experience. Mistakes are going to be made. We're not in a zero-defect environment.

So it's important that we have the education, training, and experience coupled with the flexibility to tailor our programs to meet the current circumstances. Also, the workforce must recognize that even when a mistake is made, we ought to have the right tools and oversight in place to

find that mistake sooner, so that it is less expensive to correct it.

Preston: Yes. I hadn't thought of it in those terms, but I couldn't agree more with the precept, and Dr. Kaminski has even said to me on occasion, "I wish we could find an example of someone who has taken a chance, gone out with an innovative strategy and failed because I'd like to be able to reward them so that we can prove to people that we do, in fact, understand that mistakes will be made."

I also use the example of the congressional hearings that we had on spare parts during the 1980s; not once did any individual come to the hearings and say, "I exercised my judgment. This was what I thought was the right thing to do," and then be criticized for it. Congress never criticized anyone when they said they exercised their judgment. But to be honest with you, I don't remember an instance where anyone said that. In every case it was, "I complied with the rules and regulations," which is, again, the fallacy of our system; that we measure people's performance based on whether or not they complied with rules or regulations. Compliance with rules or regulations is not what's going to get us to our goal: *our goal of being the smartest, most responsive, most efficient buyer of best-value goods and services for the warfighter.* What's going to get us there is people exercising their judgment and using their common sense.

You are absolutely right; the only way that people can do that and will be trusted, is if they have the education, the training, and I would add one more element, the experience, so that people are comfortable that the judgments they're making are based on a solid foundation.

Black: How would you like to be remembered in your leadership role here?

Preston: I'd like to be remembered as probably the world's best plagiarizer; that I take every day as a day that I learn from other people and the infor-

mation and feedback that they provide me, and that I have been able to assimilate that feedback and information, and been able to lead people in a direction based upon their input. *But the ideas are not my own.* They are things that people have shared with me.

I am very appreciative of the fact that people have been so forthcoming from everywhere; even my visits out to the field where a person will come up to me and say, "I think this thing stinks. I think what you're doing is the wrong direction." And we've had a dialogue, and I've come to understand where they're coming from and they understand then where we're trying to go and we've made a change in vector or direction. But all of these ideas have come from other people, and I've just been very, very lucky that I've been in a position to take advantage of them.

I've been part of an incredible leadership team and not only that, but I've had an incredible team working with me. What the DUSD(AR) team and the people in the Components and Services have done is phenomenal. I will leave this job, whenever that is, knowing that I have worked with probably the most professional group of people, the most dedicated group of people, that I will ever find in my lifetime. There's no doubt in my mind about that.

Black: I can't let that go. Your background and your training have put you into the position to be able to perform the leadership role and the facilitation role, and to be the perfect catalyst to bring this Acquisition Reform process to fruition. I know that you have put an awful lot of personal energy into this effort. You will be greatly appreciated and respected for that.

Preston: I appreciate that but, you know, everything is done through team work, and everybody must play their part. A team is a jigsaw puzzle in many respects, and it's something that we've talked about a lot, even within my own organization. Everybody has their place in that puzzle, and if any

one piece is missing the team can't get there from here. The work that is done by our administrative support team is just as critical to getting the job done as my leadership. We just happen to have different roles. But without their support, without the ideas that are generated by other people in the organization, we get nowhere. And without the people on the front lines implementing these initiatives on a day-to-day basis, we'd get nowhere. I've been very fortunate that my experience has led me to be in a position to be in a leadership role, and I'm very fortunate to have been there. But I'm no more than one piece of that puzzle.

Black: What is the best advice you ever received, be it from a mentor, friend, or even a parent?

Preston: In terms of advice, I guess something that my mother instilled in us as children. It started out with, "Anything is possible if you're willing to work hard enough to get there." And I would now probably modify that to say, "Anything is possible; it's only a matter of how best to approach it."

I've realized more and more during these last few years and learned during my 10 years on the Hill, that *approach* in many cases is as important as the end result, because it's going to mean the difference between whether or not people will try and achieve that end result long after you're gone. There are ways that you can get around problems and issues if you're willing to think outside of the box; if you're willing to sit down together and work

things in maybe a different way than you had thought about them previously. We must always remember that there is nothing we cannot do. It's only a question of how we go about doing it and whether or not we are willing to make the sacrifices necessary to accomplish it.

E N D N O T E S
1. Gen. Black is referring to *"Reengineering the Acquisition Oversight and Review Process,"* prepared by the Acquisition Reform Process Action Team in their Final Report to the Secretary of Defense, Dec. 9, 1994.
2. See *Program Manager* Special Edition article, "Perry Presents Vice President Gore's Hammer Award to Acquisition Reform Teams/Working Groups," this issue, pp. i-iv (center insert).

"Think about the Chinese symbol for crisis. It is actually two brush strokes: one danger, and the other opportunity. You [acquisition workforce] have at your hands the chance to jump at this opportunity. Please don't give that up. Make the most of it."

Colleen A. Preston
Deputy Under Secretary of Defense (Acquisition Reform)

CRISIS

DANGER

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MILSPEC Reform —
Results of the First Two Years

The Department of Defense is Engaged in Radical Reform of the Way It Conducts its Acquisition Business

WALTER B. BERGMANN II

The Department of Defense is engaged in radical reform of the way it conducts its acquisition business. Declining requirements and budgets are resulting in fewer purchases of defense-unique products. Between 1985 and 1996, defense procurement accounts fell from over $100 billion to $43 billion. In addition, the defense industry has undergone profound changes with companies restructuring, consolidating, diversifying, or leaving the industry entirely. To meet defense needs, the Department can no longer afford to rely solely or primarily on defense-unique capabilities. Our acquisition reform efforts are not just a noble endeavor. These efforts must succeed to ensure that we have the industrial and technological capabilities to meet current and projected national security requirements.

A key element of acquisition reform is changing the way the Department states its requirements in specifications and standards, and then applies those documents in solicitations and contracts. Detailed military-unique requirements can present barriers to the Department in accessing the commercial industrial base. The objective of "MilSpec Reform" is to break down those barriers in order to achieve three primary goals: save money; remove impediments to getting state-of-the-art technology into our weapon systems; and facilitate the diversification into commercial markets of firms that have

Bergmann is the Director, Acquisition Practices, Office of the Assistant Secretary of Defense (Economic Security). He is responsible for providing policy and planning direction for DoD programs related to Commercial/Defense Industrial Base Integration, Standardization, Commercial and Nondevelopmental Item Acquisition.

traditionally produced goods primarily, if not solely, for Defense. To achieve these goals, Secretary Perry directed that MilSpec Reform produce three results:

- Establish a Performance-based Solicitation Process
- Implement Standardization Document Improvements
- Create Irreversible Cultural Change

While much remains to be done, we have made significant progress. This brief summary highlights some of our accomplishments since Secretary Perry began MilSpec Reform with his policy memorandum of June 29, 1994. This article is intended as an update on how far the Department has progressed and as an indicator for future directions.

Cultural Change

Solicitation Scrubs. Fundamental to cultural change is breaking the paradigm of routinely imposing military specifications and standards. All too often, military specifications and standards have been invoked in solicitations and contracts without understanding what is the true requirement. Premature application, over-application, or inappropriate application of detailed specifications and standards sometimes has the unintended result of increasing costs, preventing the insertion of more technologically advanced solutions as the design matures, and excluding commercial market solutions.

To break this paradigm, the Military Departments have established procedures for "scrubbing" solicitations to ensure proper application of military specifications and standards, while encouraging greater use of performance specifications and commercial standards. For example, the Air Force has chartered a Request for Proposal (RFP) Scrub Team to review contracts and provide advice on the application of acquisition reform policies. The Air Force has established RFP Support Offices at the Center level to review all contracts that exceed $100,000. Let's examine some of the success stories:

This article is intended as an update on how far the Department has progressed and as an indicator for future directions.

Navy Sparrow Missile Homing Improvement Program
- Nearly 800 military specifications and standards eliminated from Low-Rate Initial Production Request for Proposal.
- Only 6 military specifications and standards cited as solicitation requirements.

Mark 48 Torpedo
- 103 military specifications and standards reduced to 5 in the solicitation.

C-130 Periodic Depot Maintenance Program
- 399-page RFP reduced to 195 pages.
- 158-page statement of work (SOW) reduced to 3-page statement of objectives (SOO).
- 200 military specifications and standards cited in RFP reduced to 5.

Maintenance Skills Trainer Program
- RFP reduced from 1,505 pages to 200 pages.
- SOW reduced from 524 pages to 4-page SOO.
- 81 data requirements reduced to 4.
- 21 military specifications and standards cited in RFP totally eliminated.

KC-135 Avionics Upgrade
- No military specifications or standards cited in RFP.
- 335 data requirements reduced to 39.

Milstar Satellite Communications System
- Number of military specifications and standards reduced from 110 to 43.
- Number of Government acceptance events reduced from 770 to 12.
- Number of Government inspection requirements reduced from over 19,000 to less than 100.

Surface Ship Anti-Submarine Warfare Combat System
- 67 military specifications and standards reduced to 1 military standard and 12 commercial standards.
- 212 data requirements reduced to 132.

LPD-17
- Joint government-industry team reduced the number of military specifications from 710 to 149.

AH-64D Longbow Apache Helicopter Modification Program
- 47 military specifications and standards reduced to 1 military standard.
- 117 data requirements reduced to 15.
- SOW reduced from 113 pages to 25.

Road Shows

Senior managers from the Military Departments and Defense Agencies have conducted road shows across the country to show their commitment to MilSpec Reform and provide a forum for sharing acquisition experiences and increasing understanding about MilSpec Reform goals, policies, and procedures.

13,362 people have attended 175 MilSpec Reform road shows.

MilSpec Reform Training

MilSpec Reform has produced dramatic changes to long-standing policies, procedures, and ways of doing business. People have been asked to rethink why and how they develop and use specifications and standards. To teach people the new ways of doing business required major revamping of existing courses and the creation of new courses on how to write performance specifications.

Since June 1994:
- 534 people trained at 12 defense specification management courses.
- 1257 people trained at 64 non-developmental item courses.
- 924 people trained at 41 commercial item description courses.
- 3,835 people trained at 138 performance specification courses.

Performance Specifications

Secretary Perry directed that wherever possible, DoD requirements be defined by performance specifications. By not dictating a predetermined design solution, the Department allows contractors to offer the most cost-effective, technologically advanced solutions to meet the requirement. Performance specifications also allow commercial alternatives to meet the requirement.

Performance specifications can be used to define the requirements of a wide variety of items ranging from complete weapon systems, to components, to troop support items. For commercially available items, the Department of Defense is preparing simplified, performance-based product descriptions called Commercial Item Descriptions (CID). Performance specifications are starting to yield benefits in terms of cost savings and improved performance.

- Army Tank & Automotive Command bought an eyesafe replacement for the laser rangefinder in the Abrams Tank and Armored Gun System using a performance specifica- tion. Use of a performance specification made competition possible for an item previously bought sole source.

RESULT: Cost savings of $3.6M over last sole source contract; 30 percent under the price of the previous non-eyesafe laser rangefinder.

- The Defense Personnel Support Center (DPSC) has an aggressive program to replace military specifications for clothing and textiles with commercial item descriptions. Using market research techniques, DPSC assesses what is already available to meet the performance requirements, thus reducing costs by accessing the commercial market and reducing testing.

RESULT: 48 MilSpec clothing and textile specifications were replaced by commercial item descriptions, which reduced procurement costs for these items in FY95 by over $13M.

- The Army's follow-on award for the Joint Strategic/Tactical Relay System (JSTARS) Light Ground Station Module (LGSM) achieved unit cost savings primarily due to use of industry standards, a performance specification that focused on system-level functional requirements, and emphasis on commercial and nondevelopmental item components.

RESULT: Cost savings of $1.46M.

Facilitating Integration

A primary goal of acquisition reform is to facilitate the integration of the commercial and military industrial bases. Management and process-type military standards have often been identified as a barrier to such integration. As a direct result of the DoD's MilSpec reform efforts, most of these standards have been canceled, converted to guidance handbooks, or in a few cases, replaced with commercial standards. This action establishes the framework for future savings and efficiencies on new contracts, but government-unique management and manufacturing requirements imposed by military specifications and standards on existing contracts prevent the Department of Defense from realizing the full benefits of MilSpec Reform changes.

To help capture savings and efficiencies from existing contracts without having to endure the tortuous process of individual contract changes, Under Secretary of Defense Paul Kaminski issued guidance on December 8, 1995, for making "class action" contract changes to existing contracts on a facility-wide basis. The block change initiative establishes an expedited, streamlined approach to evaluate contractors' proposals of block changes and determine where there may be a significant decrease in the cost of performance of existing contracts. Block changes permit the replacement of multiple government-unique management and manufacturing systems with common, facility-wide systems, which in the long run, should reduce costs.

While still in its infancy, the block change-single process initiative is already yielding results. In April 1996, the Department of Defense and Texas Instruments Defense Systems and Electronics Group struck an agreement to allow Texas Instruments to become the first U.S. defense contractor to institute a common set of manufacturing standards for all of its products. This change will allow Texas Instruments to eliminate about 35,000 pounds of hazardous chemicals used in painting each year. This will protect the environment and reduce overall costs by allowing the use of commercial practices on a single production line which makes weapons for the different DoD components.

The Defense Contract Management Command (DCMC) and the Defense Contract Audit Agency (DCAA) have established a DoD Reinvention Laboratory aimed at reducing the cost of Government oversight. The Reinvention Laboratory concept provides an excellent forum for recommending elimination of, or substitution for, military specifications and standards imposed

by the Department of Defense, that are not part of commercial practices.

Each Reinvention site has teams, made up of contractor and government personnel, who are chartered to review requirements and operations, and propose alternatives. Also, at each site, a management council evaluates reinvention strategies, reviews proposals, authorizes changes within local or program discretion, and recommends up-the-chain alternative proposals for approval. Each management council is comprised of the DCMC district commander, the DPRO commander, the regional DCAA manager, the resident DCAA auditor, the program managers and program executive officers doing business with the facility, and top-level contractor representatives. This council can look at individual contract requirements or contract requirements across a factory.

The Reinvention Laboratories are also beginning to show pockets of success. For example, on the C-17 aircraft program, MIL-Q-9858 for quality system programs was replaced with ISO 9000, and other military specifications were eliminated or replaced with best commercial practices. The result has been advanced schedule deliveries, cost savings of approximately $100,000 per aircraft, and a 40-percent reduction in the government quality inspection workforce.

Document Infrastructure

Through MilSpec Reform, the Department of Defense is trying to achieve the proper mix of technical documentation to guide the Department and industry in the design, production, and acquisition of weapon systems and items of support. The Department intends for its document infrastructure to be founded on performance specifications and interface standards for weapon systems and military-unique items of supply; commercial item descriptions and non-government standards for commercial items and processes; and a library of guidance handbooks that preserve lessons learned and offer known technical so-

The Acquisition Streamlining and Standardization Information SysTem (ASSIST) is available to both industry and government. This online, automated tool provides a wealth of information for document managers, developers, and users.

lutions. Reshaping the existing document infrastructure is a long, arduous task. The Department has reviewed over 30,000 military specifications and standards with the intent of either eliminating them, converting them to performance or commercial-type documents, or making them for guidance only. Fortunately, the Department has been working in this direction for several years, but MilSpec Reform has accelerated the effort through the support of senior management and the commitment of resources.

Since MilSpec Reform Efforts Began in June 1994...

- 4,230 military specifications and standards have been canceled.
- 375 performance specifications have replaced detail specifications.

- 1,737 additional non-government standards have been adopted bringing the total to 7,487.
- 350 commercial item descriptions have been developed bringing the total to 5,918.
- 394 data item descriptions have been canceled

The Department's review of over 30,000 military specifications and standards resulted in the planned elimination or replacement of most detailed, "how-to" documents. When fully implemented, the DoD document infrastructure will have achieved the desired balance.

Tools

The demands of MilSpec Reform necessitated the development or enhancement of "tools" to help improve communication, better manage the standardization program, and facilitate the development and application of performance and commercial specifications and standards.

The foremost communication tool developed was the Defense Standardization Program "MilSpec Reform" Home Page on the World Wide Web. In the top 5 percent of the most frequently accessed home pages on the Internet, it includes all policy memos pertaining to MilSpec Reform, the most frequently asked questions and their answers, status reports on the top 100 or so cost-driver documents, lists of proposed canceled documents, lists of recently canceled documents, the Standardization Newsletter, key policy and guidance documents, and hot links to other related home pages.

The Acquisition Streamlining and Standardization Information SysTem (ASSIST) is available to both industry and government. This online, automated tool provides a wealth of information for document managers, developers, and users. ASSIST was primarily a document index management tool which provided a complete index of specifications and standards and the responsible document preparing activities, document tiering data, and cancel-

lation and replacement information. Under MilSpec Reform, ASSIST has been expanded to include lists of document waivers and exemptions, the responses to over 30,000 document questionnaires, identification of documents requiring the use of hazardous materials, project tracking data, and a wide variety of management reports.

MilSpec Reform has produced new types of document series and heightened emphasis on earlier commercial acquisition initiatives. To provide guidance for document developers and users, the Department revised its publication on the development of specifications to include performance and published SD-15, "Performance Specification Guide," which provides expanded coverage on the topic. The Department also revised its publication on the development of standards to provide new direction on the types of standards that may be developed and their condition for use. The Department also developed a guidance handbook on commercial acquisition and nondevelopmental items.

The uniform resource locator (URL) for the "MilSpec Reform" Home Page is:

http:www.acq.osd.mil/es/std

Savings

It is not possible to calculate the total savings and cost avoidance to date resulting from MilSpec Reform efforts, nor to project future savings, but certain accomplishments suggest that the savings are significant. It should be noted that the savings have already been reflected in current budget estimates or were used to buy additional units, subsystems, or other program enhancement features, or to support force modernization.

The cancellation of numerous specifications and standards has created considerable savings, since these documents no longer require maintenance. The savings differ depending on the complexity and length of the document, but a study by the Logistics Management Institute calculated the

annual cost to support a particular insulation specification to be about $3,000. Using this dollar value as an average, the cancellation of 2,676 military specifications and standards without replacement should produce an annual cost avoidance of over $8M.

A December 1994 study by the Coopers & Lybrand/TASC Project Team reported that a number of management and process-type DoD standards contributed to a cost premium on the weapon systems and equipment the DoD buys. Many of these documents have since been canceled or converted to guidance-only handbooks, thus eliminating the cost premium. Even for those standards which remain, the cost premium has been significantly reduced by the imposition of a waiver that must be granted by the Milestone Decision Authority (MDA). The MDA will approve a waiver request only if it can be demonstrated that a commercial alternative that meets the requirement does not exist, and that the imposition of the standard provides value commensurate with any cost premium incurred. While no specific dollar value can be attached to the elimination of these standards, the Coopers & Lybrand/TASC study does associate an average cost premium percentage with having to comply with these documents.

Anecdotal Cost Savings and Cost Avoidance

As the first acquisitions begin to occur that are affected by the recent MilSpec Reform initiatives, the Department is witnessing some significant cost savings and cost avoidance resulting from the use of performance specifications, commercial standards, or the reduction of requirements.

Summary

The Department of Defense has accomplished much MilSpec Reform work during the past two years. The document infrastructure available for use is changing with our emphasis on performance and commercial standards. More importantly, the almost automatic way in which specifications and standards have been applied in

solicitations is changing. The initial results have been gratifying: more competition, greater access to commercial technology, improved performance, and over $2 billion in anecdotal savings and cost avoidance.

There are some key areas on which we need to focus to finish what we have set out to do. We have made good progress in scrubbing solicitations for ACAT I and II programs to ensure requirements are stated in performance terms. Now we need to apply similar, aggressive reviews to our ACAT III programs as well. Reprocurements must also reflect performance requirements in a way that facilitates use of commercial products and practices, wherever possible.

The comprehensive screening of our documents required a great deal of effort. It is imperative that we follow through with the planned actions, or we will have merely expended resources—not invested them.

We must work in partnership with industry to determine where non-government standards should be used instead of military documents to describe commercial products and practices. Some of these needed non-government standards may never become available without the active participation and leadership of DoD personnel.

We have made a good start on developing a full-text, searchable, electronic database of specifications and standards, but we still have a long way to go to complete the task. This tool, however, will significantly enhance industry's ability to respond to our needs, as well as greatly improve our capability and flexibility to support our acquisition system.

Secretary Perry kicked off the MilSpec Reform effort by quoting Victor Hugo, "...more powerful than the tread of mighty armies is an idea whose time has come." The reform we're engaged in is clearly an idea whose time has come, and it is one that is beginning to yield dividends.

SPI—Progress Made and Lessons Learned

The Expedited Process is Working!

MAJ. GEN. ROBERT W. DREWES, USAF

During a December 8, 1995 Department of Defense (DoD) Press Briefing, Secretary of Defense Dr. William J. Perry, and Under Secretary of Defense for Acquisition & Technology, Dr. Paul G. Kaminski, announced the Single Process Initiative (SPI). As designed, SPI accelerates the shift from multiple Government-unique management and manufacturing systems toward facility-wide common processes on existing DoD contracts. From the start, the Defense Contract Management Command (DCMC) played a pivotal role in this initiative by encouraging contractors to submit common process proposals and by facilitating the expedited review and approval of these proposals. This article focuses on the progress made and lessons learned since SPI began.

Progress Thus Far

In the nine months since the initiative started, 103 contractors submitted 341 concept papers proposing 426 process changes (Figure 1).[1] Of these, 349 process changes were initially accepted, and 104 processes were implemented by contract modification. It took us an average of 104 days to adopt these modifications, well under the 120-day time frame specified by Kaminski. *The expedited process is working!*

Currently, the three most frequently proposed processes are in the areas of quality programs; manufacturing processes, such as plating, encapsulation, and electrostatic protection; and business practices, including certification requirements, subcontracting authori-

Figure 1. Proposed Process Changes Submitted

zation, and work measurement (Figure 2). We still have much to do in order to fully implement the SPI, but we have already enjoyed a great deal of success.

The first two block change agreements were with Texas Instruments Defense Systems and Electronics. One block change modification targeted the product assembly process. Before the SPI, 65 variations on 38 defense specifications controlled the assembly process; now, the process will be governed by eight specifications and standards. Moreover, all eight are performance-based, commonly accepted commercial specifications and standards. That means that Texas Instruments can use the same processes to make commercial and government products and, in turn, they have the flexibility to allow their suppliers to consolidate their processes.

We learned another important lesson through our other block change modification agreement with Texas Instruments: Not only can we save time and reduce costs, but also we can make the workplace safer and cleaner. Texas Instruments and the Joint Logistics Commanders Group on Acquisition Pollution Prevention worked together to develop a block change modification for a paint and primer facility. They found that by eliminating four military specifications, the facility would also eliminate thousands of pounds of volatile organic compounds, solvent, and paint from their waste stream every year.

We also signed a block change modification with Raytheon. This single block change affects 16 separate Raytheon facilities and a total of 884 contracts and covers the areas of soldering pro-
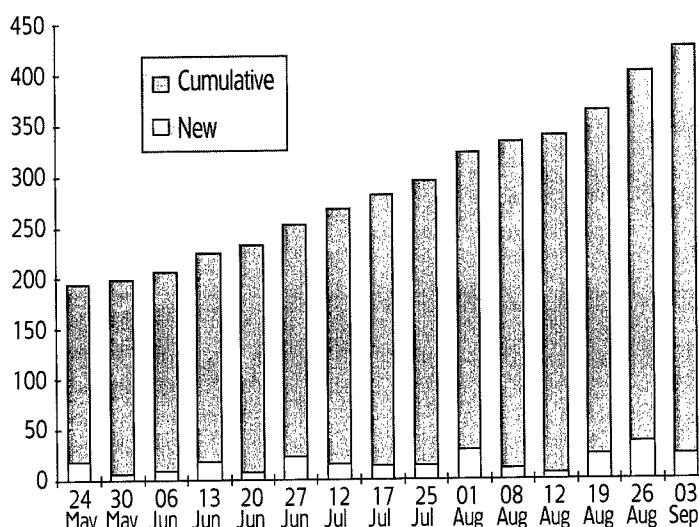
Drewes is the Deputy Director (Acquisition), Defense Logistics Agency; Commander, Defense Contract Management Command; and the Defense Logistics Agency Senior Procurement Executive.

cedures, engineering change approval, acceptance testing, configuration audits, annual test station certification, material review boards, cost data and performance reporting, calibration standardization, and component re-screening. The agreement is simple—the modification allows Raytheon to take advantage of industry-wide practices that meet the intent of military specifications and standards.

Next, we signed block change agreements with AAI Corporation and Lockheed Martin Orlando. Both agreements will permit the contractor to use an ISO 9000-based quality system on current contracts—about 300 contracts, in the case of Lockheed Martin. We moved from the concept stage to a signed agreement in just 70 days with AAI and 117 days with Lockheed Martin Orlando. Other facilities where we also completed block change agreements include: United Defense Limited Partnership, Boeing Seattle, Hughes Missile Systems Company, ITT Gilfillan, Rockwell Collins, and GE Aircraft Engines, just to name a few (Figure 3). These modifications reflect a great deal of effort on the part of the contractors—Air Force, Army, Navy, and the Defense Contract Audit Agency (DCAA) as well as DCMC.

The most important lesson we learned so far is that we can turn these agreements around quickly and at minimal cost, allowing industry—and the taxpayer—to capture the cost savings and efficiency improvements in short order.

Communication is Key

Another important lesson learned is the need for effective communication. Early during the initiative, I issued guidance to all DCMC field offices outlining their responsibilities in the implementation of SPI. Subsequently, each Component, DCAA, and the Defense Logistics Agency (DLA) issued guidance. We submit weekly and quarterly reports on SPI progress to Kaminski and the Component Acquisition Executives (CAE) to keep them informed. Additionally, we issued SPI information sheets. To provide easier

> **The most important lesson we learned so far is that we can turn these agreements around quickly and at minimal cost, allowing industry— and the taxpayer— to capture the cost savings and efficiency improvements in short order.**

access to SPI information for the people who need it, we posted all our reports and other SPI material on our World Wide Web Home Page: **http://www.dcmc.dcrb.dla.mil**

At the local level, each DCMC field office established a local Management Council comprised of contractors, DCMC, DCAA, and key customer representatives. However, serving on a local Management Council is not without some difficulties. In addition to a great deal of work involved in serving on a Management Council, members often may have conflicting demands on their time. This situation may be further exacerbated by the fact that some customer representatives serve on more than one Management Council. Frequently, significant geographic distances between the offices of all the members is a problem that must be overcome. Also, the concept papers and the issues surrounding the Management Councils are complex.

In spite of these difficulties, we saw several examples of Management Councils that rose to the challenge. Effective, frequent communication among the members of the Management Council is absolutely essential for success. The keys are getting the right people together, expediting concept paper coordination, facilitating technical analysis, and preventing excessive cost data requests.

To provide a vital link of communication between policy makers and those charged with implementing the SPI, I established a Block Change Manage-

Quality Program
Manufacturing
Business Practices
Configuration
Subcontract Issues
Military Soldering
Property
Calibration
Material Review
Test Requirements
Software
Cost Data Reporting
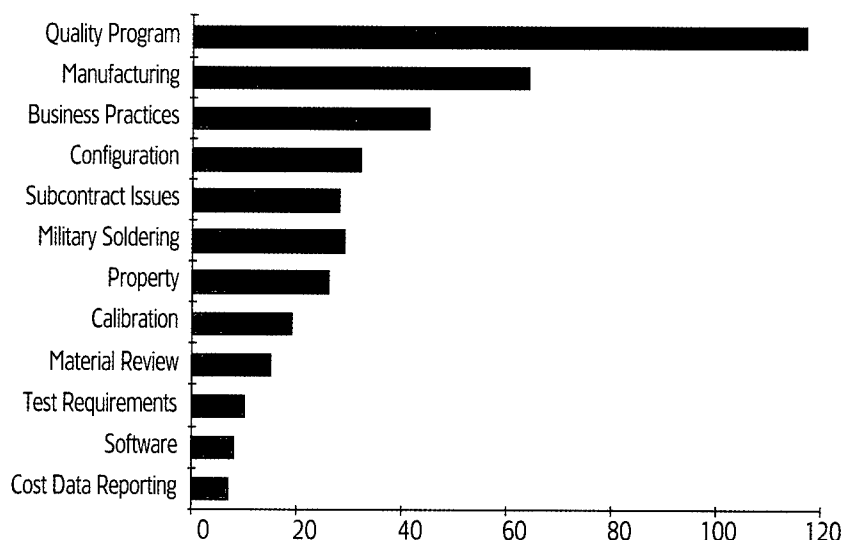
0   20   40   60   80   100   120

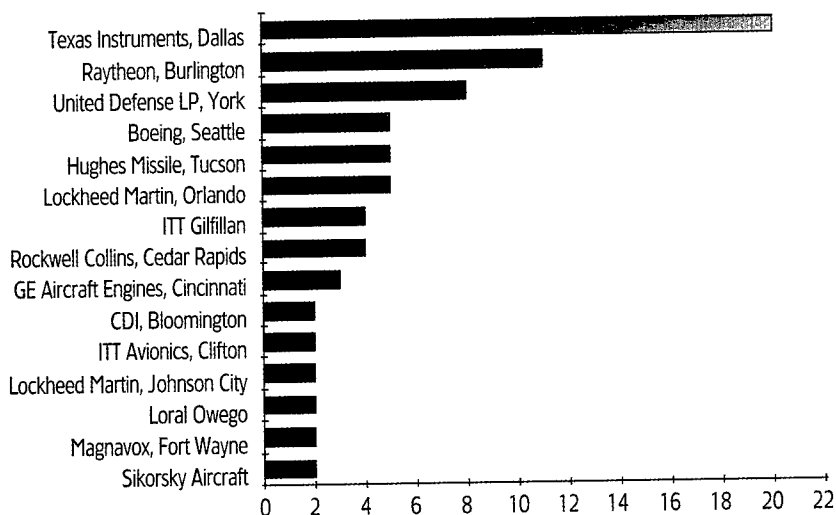Figure 2. **Most Frequently Proposed Process Changes**

Figure 3. **Processes Modified by Block Change**

ment Team at Headquarters DCMC. In addition to DCMC members, the team also includes representatives from the Office of the Secretary of Defense, Military Departments, DLA, DCAA, Office of the DoD Inspector General, National Aeronautics and Space Administration (NASA), and Federal Aviation Administration (FAA).

One of the main functions of the Management Team is to get the word out. To this end, the Management Team participated in such activities as DoD Acquisition Reform Acceleration Day presentations; satellite broadcasts on the SPI; as well as numerous conferences, panel discussions, and field office assistance visits. In addition, I established "SWAT" teams of contracting, legal, and technical experts to provide advice and assistance to local sites, as needed. Despite all that, I found that we need to do even more to increase awareness and understanding of this initiative. In September 1996 we began a series of road shows around different DCMC locations that we believe will benefit the many people involved in implementing SPI.

Effective communication is especially critical when implementing block changes at prime contractors that are also subcontractors. Early during the initiative, both government and industry representatives expressed concern

over how to best implement block changes at major subcontractors. As a result, I chartered a joint industry and government process action team to develop a workable process for quickly implementing common processes on both prime and subcontracts.

As a result of their efforts, Kaminski issued a memorandum on September 3, 1996, which provides guidance for dealing with specification or process changes on subcontracts. Briefly stated, prime contractors are encouraged to identify, in their concept papers, government-related subcontracts that are candidates for block change implementation. When this occurs, the Management Council receiving the concept paper shall ensure that both the affected DoD program manager and the prime contractor are consulted as part of the technical review. Once the Management Council and the prime contractor agree on the acceptability of the proposed change, the prime contract and subcontract may be modified as necessary.

Recently, we took a significant first step toward expanding the SPI, including civilian agencies. On May 17, 1996, Daniel Goldin, the NASA Administrator, issued a policy letter expressing his enthusiastic support of the SPI. Also, NASA issued implementing guidelines and identified points of contacts for all

of their centers. This is a milestone achievement. As our partnership with NASA continues to gain momentum, the FAA has indicated that a policy letter detailing their involvement in the initiative will be issued in the near future.

Ensuring an expedited process was the bias toward moving the approval process forward. The process is designed to quickly resolve disagreements, facilitate consensus, and elevate issues of substantial concern. If program managers or other customers within a Component disagree over the acceptability of a contractor-proposed change, the issue is promptly raised to the CAE for resolution. If the Components disagree, the issue is elevated through the Headquarters Management Team to the Defense Acquisition Executive. As a result, no single organization can veto a contractor's proposed change; the issue must be brought forward and resolved. I credit this concept with keeping the initiative on track.

Adopting common processes is a critical component of acquisition reform, *and it's working!* Together, we made significant progress in the transition away from government-unique management and manufacturing requirements. However, we must continue to accelerate the shift toward facility-wide common processes. As Winston Churchill said during World War II when the United States entered the war, "This is not the end, or even the beginning of the end, but it is, I believe, the end of the beginning." We are at the end of the beginning of the SPI.

For further information or questions concerning the DCMC and its implementation of the SPI, please contact Ms. Marialane Schultz at (703) 767-2471 or DSN 427-2471. In addition, please check out our web site for SPI information sheets, reports, letters, briefings, and other data: **http://www.dcmc.dcrb.dla.mil**

E N D N O T E

Data is current as of September 3, 1996.

Defense Acquisition Deskbook—
An Acquisition Reform Unqualified Success

Institutionalizing an Automated Acquisition Process

DOREEN HARWOOD

I f you have not already been exposed to the Defense Acquisition Deskbook, let me use this article as a forum to both introduce and update you on its purpose and capabilities. This article also serves as a follow-on article and update to the July-August 1995 *Program Manager* article, "AAI PAT Introduces the Acquisition Deskbook."

The Beginning

What is the Deskbook? It is an automated reference tool providing the full complement of acquisition information "at the fingertips" of the acquisition professional. Imagine having the Federal Acquisition Regulation (FAR) and the Defense FAR Supplement (DFARS) online. Now broaden this picture to include the Service supplements, the DoD Directive 5000.1, and the DoD 5000.2-R. Add a body of information describing the flow of the acquisition process; the "hows" and "whys" of the Operational Requirements Document (ORD), Acquisition Program Baseline (APB), Test and Evaluation Master Plan (TEMP), and Milestone Decision Reviews; sample formats excerpted from the preceding information that you can cut and paste into your own acquisition package; and software tools to help you generate the required information. Complete the image with all this information interconnected via hypertext links so you can navigate quickly and efficiently from one document or body of information to an-

Harwood is detailed to the Office of the Deputy Under Secretary of Defense (Acquisition Reform). She is also DAWIA-certified at Level III in Business Management.

other. Is this the Defense Acquisition Deskbook? Yes—the Deskbook is this and a whole lot more!

Changing a Culture

Government acquisition professionals have operated within a system often described as encouraging and rewarding those who follow the rules and regulations rather than exercising judgment and common sense; using standard practices, rather than flexible, agile, and innovative approaches; avoiding risk, rather than managing risk; and developing functional experts who interpret the rules, rather than cross-functional teams oriented toward

building successful programs. In today's world of fast-paced technology, this traditional system of complex laws, regulations, rules, and procedures does not provide the flexibility required by the acquisition professional to meet the needs of the warfighters in a quick, efficient, and cost effective manner. Recognizing this, in 1993 the Clinton administration created the Office of the Under Secretary of Defense (Acquisition Reform) (ODUSD[AR]) to be the catalyst for streamlining the acquisition process. Headed by Mrs. Colleen A. Preston, the office's goal is to make the Department of Defense the world's

SECDEF PRESIDES OVER HAMMER AWARDS CEREMONY

"Heroes of Reinvention"
Honored at Fort Myer, Va., Sept. 20, 1996

"...the Hammer Awards ceremony is so important, not only because we're finally able to recognize the work that the Process Action Teams and the Federal Acquisition Streamlining Act regulation writing teams did, but it is the closing of that circle where we said to these people, 'We want your recommendations, and we will do our best to follow through on those recommendations.'"

Colleen A. Preston
Deputy Under Secretary of
Defense (Acquisition Reform)
Aug. 22, 1996

FROM LEFT: DELORES "DEE" SMITH, TEAM LEADER OF THE ELECTRONICS COMMERCE/ ELECTRONIC DATA INTERCHANGE IN CONTRACTING PROCESS ACTION TEAM; COLLEEN A. PRESTON, "TEAM AR" LEADER.

FROM LEFT: ARMY BRIG. GEN. JOHN CALDWELL, JR., TEAM LEADER, OVERSIGHT AND REVIEW PROCESS ACTION TEAM; DONNA RICHBOURG.

FROM LEFT: ARTHUR L. MONEY, ASSISTANT SECRETARY OF THE AIR FORCE FOR ACQUISITION AND AIR FORCE SERVICE ACQUISITION EXECUTIVE; JOHN W. DOUGLASS, ASSISTANT SECRETARY OF THE NAVY (RESEARCH, DEVELOPMENT, AND ACQUISITION); R. NOEL LONGUEMARE, PRINCIPAL DEPUTY UNDER SECRETARY OF DEFENSE (ACQUISITION AND TECHNOLOGY).

HAMMER AWARDS CEREMONIAL PLANNING TEAM. FROM LEFT: ARMY LT. COL. WILLIAM WEIR; KRISTINE KOSCIELNIAK; TAMMY BOWEN; DONNA BIRGE; COLLEEN A. PRESTON; DIANE MCLAUGHLIN; DR. MARY-JO HALL; RETIRED AIR FORCE LT. GEN. MINTER ALEXANDER; ARMY STAFF SGT. T.J. BISHOP; PATRICK LOWREY.

Photos by Greg Caruth, Ed Boyd, Richard Mattox

Hammer Awards Continued...

FROM LEFT: ARMY COL. SHAROLYN HAYES, DAU ACQUISITION REFORM COMMUNICATIONS CENTER DIRECTOR; THOMAS M. CREAN, PRESIDENT OF THE DEFENSE ACQUISITION UNIVERSITY.

FROM LEFT: MARK WAGNER; BRAD BERGMANN, OSD ADVISOR TO THE MILITARY SPECIFICATIONS AND STANDARDS PROCESS ACTION TEAM.

FROM LEFT: AIR FORCE LT. COL. DAVE LONDON, MEMBER OF THE AUTOMATED ACQUISITION INFORMATION PROCESS ACTION TEAM; AIR FORCE BRIG. GEN. CLAUDE M. BOLTON, JR., DSMC FORMER COMMANDANT AND MEMBER OF THE CONSULTING GROUP ON METRICS, DEFENSE ACQUISITION PILOT PROGRAM WORKING GROUPS.

FROM LEFT: ARMY COL. BLAIR A. PETERSON, TEAM LEADER, CONTRACT ADMINISTRATION PROCESS ACTION TEAM; ARMY COL CHARLES ADAMS, TEAM SUPPORT, CONTRACT ADMINISTRATION PROCESS ACTION TEAM; ROBERT RUMBERGER, TEAM LEADER, PROCUREMENT PROCESS REFORM PROCESS ACTION TEAM.

DAROLD L. GRIFFIN, TEAM LEADER, MILITARY SPECIFICATIONS AND STANDARDS PROCESS ACTION TEAM.

FROM LEFT: JERRY TULL, ARMY MATERIEL COMMAND; DR. KEN OSCAR, CO-CHAIRMAN, STRATEGIC OUTCOME METRICS TIGER TEAM; ARMY COL STANLEY LEJA, STRATEGIC OUTCOME METRICS TIGER TEAM LEADER.

FROM LEFT: IDA USTAD, DEPUTY ASSOCIATE ADMINISTRATOR, PROCUREMENT, GENERAL SERVICES ADMINISTRATION; ARTHUR MONEY, ASSISTANT SECRETARY OF THE AIR FORCE (ACQUISITION) AND AIR FORCE SERVICE ACQUISITION EXECUTIVE; ELEANOR R. SPECTOR, DIRECTOR OF DEFENSE PROCUREMENT.

RETIRED NAVY CAPT. BARRY COHEN, TEAM LEADER, FEDERAL ACQUISITION STREAMLINING ACT (FASA), FEDERAL ACQUISITION REGULATIONS (FAR) AND DEFENSE-UNIQUE PROVISIONS DRAFTING TEAMS.

TERRY SQUILLACOTE, TEAM LEADER OF THE DoD PROTEST REFORM WORKING GROUP.

THE ELECTRONIC COMMERCE INFORMATION CENTER WAS ONE OF SEVERAL EXHIBITORS AT THE RECEPTION. OTHER EXHIBITORS INCLUDED THE AUTOMATED DESKBOOK AND THE DEFENSE ACQUISITION UNIVERSITY. FROM LEFT: JEANINE MACEO, CENTECH CONTRACTOR, STAFFERS MILES HOLTZMAN, KAREN HEMBREE, AND CHARLENE IVEY EXPLAIN HOW BUSINESSES CAN SIMPLIFY GOVERNMENT PURCHASES OF COMMODITIES AND SERVICES UP TO $100,000 EACH ELECTRONICALLY— SAVING PAPERWORK, REDUCING COST, AND INCREASING PROCUREMENT EFFICIENCY.

FROM LEFT: DR. PAUL G. KAMINSKI, UNDER SECRETARY OF DEFENSE (ACQUISITION AND TECHNOLOGY); RICHARD SYLVESTER, TEAM LEADER, REGULATORY RELIEF WORKING GROUP, DEFENSE ACQUISITION PILOT PROGRAM WORKING GROUPS.
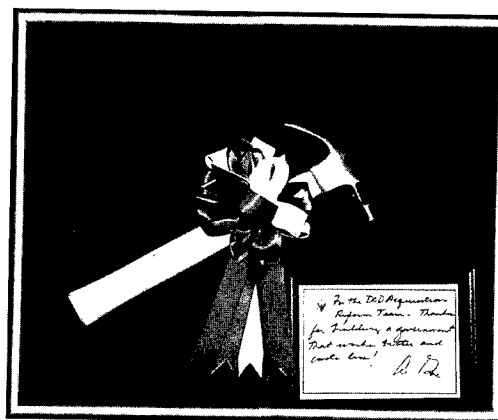
BILL MOUNTS, CHAIRMAN OF THE DoD COST PREMIUM GROUP.

Perry Presents Vice President Gore's Hammer Award to Acquisition Reform Teams and Working Groups

Teams and Working Groups Dispel Myth that Acquisition Reform Belongs in the "Too Hard to Do" Category

DR. MARY-JO HALL • COLLIE J. JOHNSON

Extremely long hours, frustration, agreement/disagreement, a Herculean dose of compromise and negotiation—these were the efforts it took to pull off one of the acquisition community's greatest success stories—the reform of the many acquisition processes. The process action teams, working groups, and drafting teams who recommended new procedures, strategies, policies, and legislation literally removed the mountain that created so many barriers in acquisition.

DSMC Wins Big

On Sept. 20, 1996, Secretary of Defense William J. Perry rewarded the extraordinary efforts of DoD's acquisition reform teams and working groups. In a ceremony conducted at Conmy Hall, Fort Myer, Va., Perry presented Vice President Al Gore's "Heroes of Reinvention Hammer Award" to several acquisition reform teams and working groups. Among those teams and working groups were 15 current and former employees of the Defense Systems Management College: Air Force Brig. Gen. Claude M. Bolton, Jr.; Charles Cochrane; Thomas J. Dolan, Jr.; retired Army Lt. Col. Chris Feudo; Army Col. Sharolyn Hayes; retired Army Brig. Gen. Edward Hirsch; Collie Johnson; Larry Lerer; Fred Manzer; Janice Menker; James Price; Sandy

Hall is the Special Assistant for Quality, Office of the Commandant, DSMC. Johnson is Managing Editor, Program Manager, DSMC Visual Arts and Press.

THE HAMMER AWARD CONSISTS OF A LAPEL PIN, $6.00 HAMMER, A RIBBON, AND A NOTE FROM VICE PRESIDENT GORE, ALL MOUNTED IN AN ALUMINUM SHADOW BOX FRAME.

AND THE WINNERS ARE! THE OFFICIAL PARTY OF KAMINSKI, PERRY, AND PRESTON SYMBOLICALLY RAISE THE WINNING HANDS OF THE TEAMS AND WORKING GROUPS HONORED AS "HEROES OF ACQUISITION REFORM."

Photos by Greg Caruth, Ed Boyd, and Richard Mattox

SECRETARY OF DEFENSE WILLIAM J. PERRY PRESENTS THE KEYNOTE ADDRESS AT THE "HEROES OF REINVENTION HAMMER AWARD" CEREMONY AT CONMY HALL, FORT MYER, VA., SEPT. 20, 1996. SEATED BEHIND PERRY, FRONT ROW, FROM LEFT: R. NOEL LONGUEMARE, PRINCIPAL DEPUTY UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND TECHNOLOGY; AIR FORCE LT. GEN. LESTER LYLES, BALLISTIC MISSILE DEFENSE ORGANIZATION; ART MONEY, AIR FORCE SERVICE ACQUISITION EXECUTIVE; JOHN W. DOUGLASS, NAVY SERVICE ACQUISITION EXECUTIVE; STEVE KELMAN, ADMINISTRATOR, OFFICE OF FEDERAL PROCUREMENT POLICY. SECOND ROW, FROM LEFT: BETTY L. BAILEY, DIRECTOR, OFFICE OF ACQUISITION MANAGEMENT, ENVIRONMENTAL PROTECTION AGENCY; LLOYD W. PRATSCH, PROCUREMENT EXECUTIVE, DEPARTMENT OF STATE; GARY KRUMP, DEPUTY ASSISTANT SECRETARY FOR ACQUISITION AND MATERIAL MANAGEMENT, DEPARTMENT OF VETERAN AFFAIRS; DEIDRE A. LEE, ASSOCIATE ADMINISTRATOR FOR PROCUREMENT, NATIONAL AERONAUTICS AND SPACE ADMINISTRATION; ELEANOR SPECTOR, DIRECTOR OF DEFENSE PROCUREMENT, OFFICE OF THE UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND TECHNOLOGY; IDA USTAD, DEPUTY ASSOCIATE ADMINISTRATOR, PROCUREMENT, GENERAL SERVICES ADMINISTRATION.

Rittenhouse; Thomas Siemsen; Bob Stryjewski; and Frances Valore.

Assisting Perry in the presentations were two senior acquisition leaders from OSD: the host for the ceremony, Under Secretary of Defense for Acquisition and Technology, Dr. Paul G. Kaminski; and the Acquisition Reform Team Leader, Deputy Under Secretary of Defense for Acquisition Reform, Colleen A. Preston.

A Chance to be Heard

Assembling earlier in the morning prior to the Hammer Awards Ceremony, Preston convened her process action team leaders, team members, and working groups for a brief-out and assessment of each team or group's original recommendations to Kaminski. Gathering from across the nation, 12 of 13 diversified teams out-briefed the implementation of their recommendations. The process action teams, working groups, and drafting teams who received the Hammer Award included:

EC/EDI Process Action Team. The Electronic Commerce/Electronic Data Interchange in Contracting team, led by Delores "Dee" Smith, reported that the team's recommendations have resulted in revolutionary changes in Department of Defense contracting practices. Now vendors and contractors who do business electronically have to subscribe to only one network. Using that network, they can conduct transactions with over 250 offices. Vendors now have access to electronic notices of government-wide purchases. They can search automatically for items of interest. Quotes can be made and contracts awarded electronically.

MILSPECs and Standards Process Action Team. The Military Specifications and Standards Process Action Team, led by Darold L. Griffin, has decreased the DoD's reliance on more than 31,000 military specifications that defined the requirements to purchase products. Now the Department can purchase from a unified national production base without paying a premium for "defense-unique" items or services.

Contract Administration Process Action Team. Led by Army Col. Blair A. Peterson, the team developed a comprehensive plan to reengineer the contract administration process. They changed the concept of "effective oversight." No longer is it practical to avoid risk at all costs; instead, leaders will manage risks within the constraints of the budget. The team identified 36 specific recommendations for improvements to contract administration.

Procurement Process Reform Process Action Team. Led by Robert Rumberger, the team identified ways for DoD to reform its internal procurement procedures. They streamlined competitive and sole-source procurement creating a better balance between fairness and efficiency in competition. This reduces the required time to buy items and has improved communications between the government and its suppliers.

Oversight and Review Process Action Team. Led by Army Brig. Gen. John Caldwell, Jr., the team reengineered the oversight and review of DoD's acquisition system. Now oversight staffs have an integrated role and work with the system program offices. Acquisitions are tailored for the executive reviews of each particular program, with war-fighter needs as the focus and goal. These changes will improve the Department's ability to field warfighters' requirements in a "just-in-time" manner that is more efficient and cost effective.

Communications and Outreach Process Team. Led by Janice Menker, the team developed a draft strategic plan for communicating a common acquisition reform message throughout the acquisition workforce.

Automated Acquisition Information Process Action Team. Led by retired Navy Capt. Tom Davis, the team introduced an automated deskbook with three electronic volumes: a Reference Set; a Tool Catalog; and an Acquisition Management Forum. The deskbook provides information essential for acquisition professionals to make informed decisions.

Department of Defense Cost Premium Group. Chaired by Bill E. Mounts, the group analyzed the top 24 cost drivers in procurement. In doing so, they helped change 15 encumbering military standards, and created 18 specific reforms that reduced contractor oversight and procurement costs.

Defense Acquisition Pilot Program Working Groups. Led by Ric Sylvester, these groups spearheaded the pilot programs: the Regulatory Relief Working Group and the Pilot Program Consulting Group on Metrics. Eliminating statutory barriers, they expanded the use of standard commercial and industrial practices in the acquisition process. Streamlined actions cut review time for one program from six months to six weeks. Documentation on another program was reduced by 75 percent. Statutory and regulatory waivers lowered contract costs and led to less intrusive government oversight.

Department of Defense Protest Reform Working Group. Led by Terry Squillacote, the group reformed the protest process by drafting critical language for proposed legislation and commenting on proposed regulations. When passed, this change will ensure government contract award decisions are reviewed on the same basis as other government actions, thus reducing the burden of extensive litigation.

The Strategic Outcome Metrics Tiger Team. Led by Army Col. Stanley Leja, the team developed metrics to measure the results of acquisition reform. These metrics have provided feedback to the

> **"You were the ones who were frustrated with the red tape. You were the ones who knew what needed to be changed. And you were the ones who proved the skeptics wrong...Today you are the ones that we honor, not only for changing our acquisition system but also for proving that when federal employees are given free rein to change government, they can move mountains."**
>
> **Secretary of Defense William J. Perry Sept. 20, 1996**
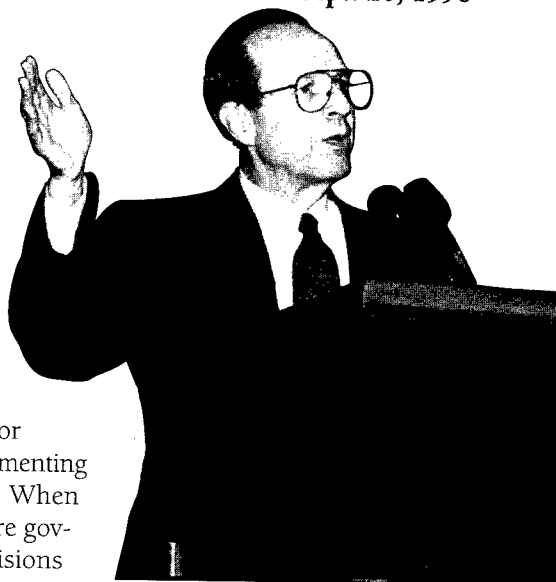
acquisition workforce demonstrating the DoD's progress.

Federal Acquisition Streamlining Act, Federal Acquisition Regulations, and Defense-unique Provisions Drafting Team. Led by retired Navy Capt. Barry L. Cohen, the team prepared changes to the Federal Acquisition Regulations that were mandated by the new law. These changes streamline the acquisition process by eliminating unique and burdensome government requirements. Contracting officers can make *on-the-scene* decisions.

Team AR. Headed by Colleen A. Preston, Deputy Under Secretary of Defense for Acquisition Reform, Team Acquisition Reform (Team AR), created the vision and direction for acquisition reform within the Department of Defense. All 12 of the other teams were supported by Team AR. They have facilitated efforts to reengineer the acquisition process and change the "culture" of the acquisition system.

Welcome

Kaminski extended a warm welcome to the awardees, their leaders, colleagues, friends, and family members. In recognizing the awardees, he also expressed appreciation to the "thousands of other people who have been reinventing the Federal Government's acquisition process...Your contributions also are being honored here today. Without your help and the help of many others who are unable to be with us today, none of the great progress we have made would have been possible."

Distinguished guests attending the ceremony included: Dr. Steve Kelman, Administrator, Office of Federal Procurement Policy; John Douglass, Navy Service Acquisition Executive; Art Money, Air Force Service Acquisition Executive; Air Force Lt. Gen. Lester Lyles, Director, Ballistic Missile Defense Organization; R. Noel Longuemare, Principal Deputy Under Secretary of Defense for Acquisition and Technology; Eleanor Spector, Director of Defense Procurement; Betty L. Bailey, Director, Office of Acquisition Management, Environmental

Protection Agency; Lloyd W. Pratsch, Procurement Executive, Department of State; Gary Krump, Deputy Assistant Secretary for Acquisition and Material Management, Department of Veteran Affairs; Deidre A. Lee, Associate Administrator for Procurement, National Aeronautics and Space Administration; and Ida Ustad, Deputy Associate Administrator, Procurement, General Services Administration.

Also recognized were key members of congressional staffs who played a critical role in acquisition reform legislative initiatives; the Section 800 Acquisition Streamlining Panel; members of the Defense Science Board; and the Acquisition Reform Senior Steering Group.

"Our work here is not done," according to Kaminski. "As we move from words to deeds, we recognize that true reform comes not only from good ideas but from dynamic leadership, the kind of leadership that can chart the course and keep us focused on the way ahead." Introducing the keynote speaker, Secretary of Defense William J. Perry, Kaminski said, "We have been extremely fortunate to have had just that kind of leadership and support from the very top in our Department... His vision has been for DoD to become a world-class buyer by adopting more commercial-like processes, managing risk, and leveraging a globally competitive industrial base, all of which will support U.S. warfighters by getting advanced weapons and equipment fielded faster, cheaper, and at the promised performance levels...The great progress that we have made so far can also be attributed to Secretary Perry's strong, very public support for our entire program of acquisition reform."

Keynote Address
Perry's participation in the ceremony symbolized the degree of significance and credibility the Department of Defense places on the recommendations coming out of the teams and working groups. Referring to the task set before them, Perry likened it to Sisyphus in Greek mythology, who was sentenced to spend all of eternity rolling a large

rock up a mountain only to have it roll back down just as he reached the top. "When it comes to acquisition reform, every Secretary of Defense for the past 30 years has been like Sisyphus. Each one was determined to get that rock over the mountain and reform the system, and each time the rock rolled back down again.

In the past three years we have gotten that rock of acquisition reform rolling because instead of trying to roll it up the mountain, we decided to get rid of the mountain." Perry also acknowledged the support and inspiration of two individuals "who can truly move mountains, President Clinton and Vice President Gore, who made defense acquisition reform a national priority, and because we had strong bipartisan support from Congress."

Speaking of the talent and creativity of our acquisition workforce, Perry said, "You grabbed your picks and shovels and put your shoulders to the task." He spoke of the skepticism when the acquisition reform effort was first launched three years ago and how management experts said that it couldn't be done. They said that to change our acquisition system we needed to change the culture, and to change the culture we had to get rid of half of the workforce, which was used to doing things the old way.

Perry reiterated that our success was found in taking the opposite approach. Instead of getting rid of the people with the day-to-day experience, DoD asked them to be the agents of change. "You were the ones who were frustrated with the red tape. You were the ones who knew what needed to be changed. And you were the ones who proved the skeptics wrong...Today you are the ones that we honor, not only for changing our acquisition system but also for proving that when federal employees are given free rein to change government, they can move mountains."

Concluding his remarks, Perry quoted Winston Churchill who once said, "I

am easily satisfied with the very best." He told the awardees that they have done the very best, and "I am more than satisfied. I am proud of each of you and proud to present you with the Vice President's Hammer Award."

Colleen A. Preston
Also speaking at the ceremony was Colleen A. Preston, the Deputy Under Secretary of Defense for Acquisition Reform, who served as the AR Team Leader and spearheaded the entire acquisition reform effort.

Preston said that the acquisition reform process within DoD has not been easy. She spoke of the persistence of the efforts of the teams and working groups in trying to achieve breakthroughs in thinking about problems and creating innovative solutions day after day, week after week. "Our honorees have proven that removed from the shackles of a rule-bound system, government employees are, in fact, the most innovative, the most knowledgeable about what needs to be done to change the system so that they can do their job, and the most willing to work at change when given the chance."

Leaving the audience with one last thought, she remarked that it is indeed possible "for one individual to make changes in a bureaucracy even as large as the Federal Government and, perhaps even better, that *with teamwork common people can attain uncommon results.*

She commended the DUSD(AR) team and called them "facilitators and the world's best plagiarizers" because their goal in life is to take good ideas from all walks of the acquisition community and workforce, share them with others, and get them implemented.

On a personal note, Preston concluded her remarks with these words: "There is no doubt that each of you here and many others that have yet to be recognized, or may never be, have let me fly so high that I have almost touched the sky. Thank you for being the wind beneath my wings."

Hammer
Awards

EC/EDI IN CONTRACTING
PROCESS ACTION TEAM

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MILITARY SPECIFICATIONS &
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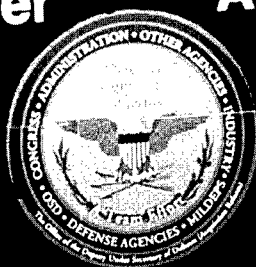
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PROCUREMENT PROCESS
REFORM PROCESS
ACTION TEAM

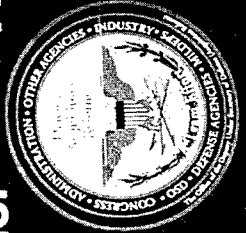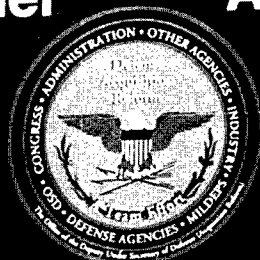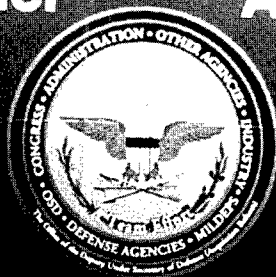Friday, September 20, 1996 • Conmy Hall, Ft. Myer, VA

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Awards

FASA, FAR & DEFENSE-UNIQUE
PROVISIONS DRAFTING TEAM

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ACQUISITION
REFORM STAFF

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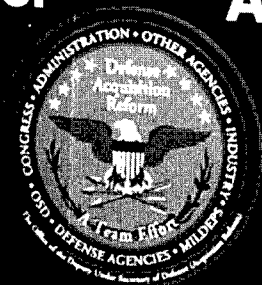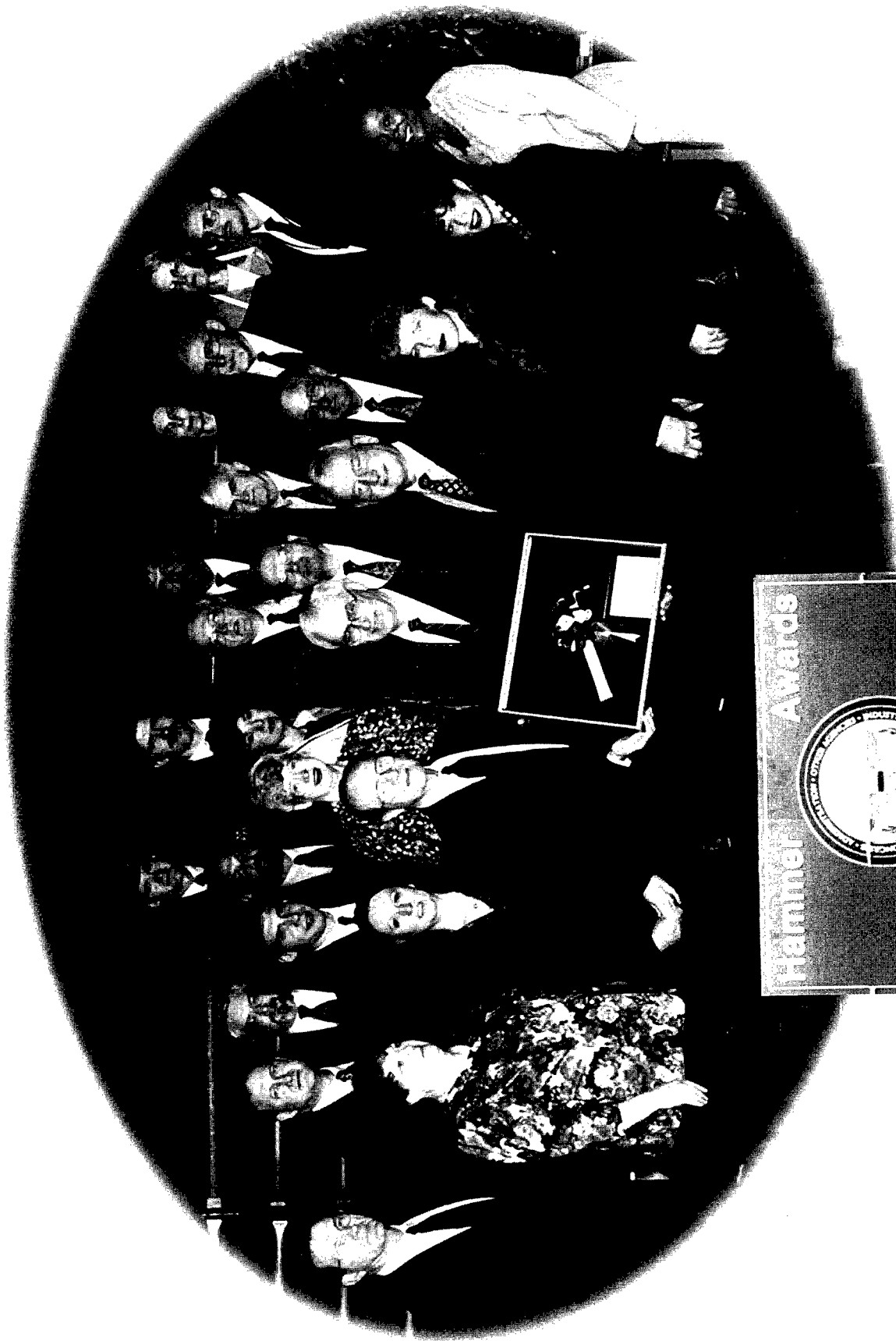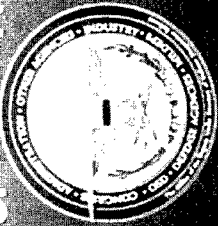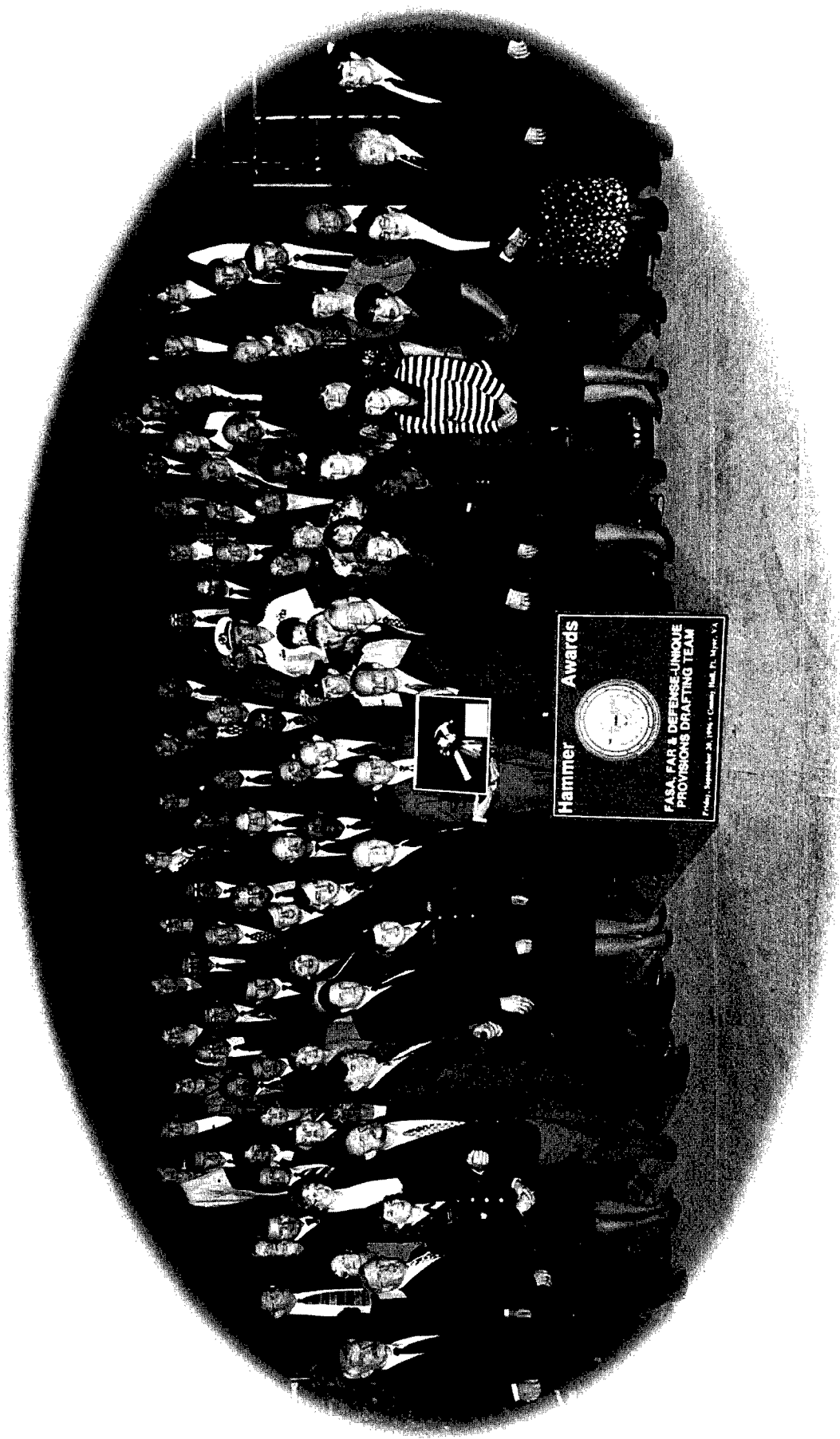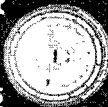smartest, most efficient, most responsive buyer of best value goods and services that meet the warfighters needs while relying on a globally competitive national industrial base.

Legislative Reforms

A prime example of streamlining the acquisition process is the March 15, 1996 release of the 5000 Series documents, DoDD 5000.1 and DoD

5000.2-R. In March of 1995, Dr. Paul G. Kaminski, Under Secretary of Defense (Acquisition & Technology) (USD[A&T]) established an Integrated Product Team (IPT) for the purpose of rewriting the 1991 documents. This cross-functional team, composed of representatives from the Office of the Secretary of Defense (OSD), the Services, and Agencies, applied a new philosophy to the rewrite effort—to separate mandatory direction from discretionary guidance. Mandatory direction was defined by the IPT as acquisition statute, policy, or information essential for the Milestone Decision Authority to make good decisions, and

that which made logical business sense.

Taking the 1200-page existing set of 5000 Series and the 46-page 8120 Series documents, the IPT separated the mandatory from the discretionary material. The result—a 16-page directive guiding all defense acquisitions, and a 122-page user-friendly regulation implementing the philosophy for Major Defense Acquisition Programs and Major Automated Information System Acquisition Programs.

For the first time in the history of acquisition regulations, the "must do" practices of the acquisition process are clearly stated; and the alternative "may do" practices are provided as guidance, acknowledging the ability of the acquisition professional to exercise judgment and manage risk.

Timeliness— Getting the Word Out

Now that we have new philosophy from OSD in the form of the 5000 Series—delineating the acquisition process mandatory (must do) from the discretionary (may do)—what other areas are open for improvement? Well, there has always been a cry for more timely information. A gap of as much as six months can occur between the time a statute or policy change is issued before it is received in the field. And when received, the information is often restated or supplemented to the point that the message may no longer be that intended by its authors. Additionally, there has always been a need to better link the procurement and program management communities. An understanding by these communities of each other's guiding policies— the FAR and the 5000—can only facilitate a closer working relationship and common appreciation.

About the Website

Addressing all these needs is the Defense Acquisition Deskbook. The Deskbook is comprised of two separate pieces. The first piece, released on July 31, 1996, is available on Compact Disk (CD), or via download from the

Deskbook Website. Access to the second piece is through the Deskbook World Wide Web site on the Internet:

http://deskbook.osd.mil/ deskbook.html

The Deskbook CD-ROM provides access to a current and complete body of acquisition information, and is presented in two parts: the reference library and the information structure. The reference library contains the FAR, DFARS, the DoDD 5000.1 and 5000.2-R, every statute and document reference in the two 5000 documents, and numerous Service and Agency documents. Building on the mandatory-discretionary philosophy, the library divides mandatory documents, like the FAR and the 5000, from discretionary guidance contained in handbooks, manuals, and guidebooks. The reference library satisfies the need for timely and unfiltered access to policy and statute, as well as informing you how OSD, Component, and Command levels are implementing policy and statute.

The information structure contains discretionary guidance. Access is provided through two avenues, process or topic, depending on how your mind may focus your search for information. For example, to access information concerning how to write a TEMP, you may go to the TOPIC: 2.8.1 Test and Evaluation Process, or to the PROCESS: 1.2.2.7 Plan and Document Test and Evaluation Strategy. Both paths lead you to a screen with a Description; associated Mandatory References in the FAR, DFARS, 5000 Series; and at the Component- and Command-level. By listing the FAR, DFARS, and 5000 references by subject, side by side, and providing hypertext links to the reference material, acquisition professionals can see the integration of procurement and program management community direction, and are provided fingertip access to that information.

Scrolling down the screen, continuing to use the TEMP example, you find Discretionary Practices divided by
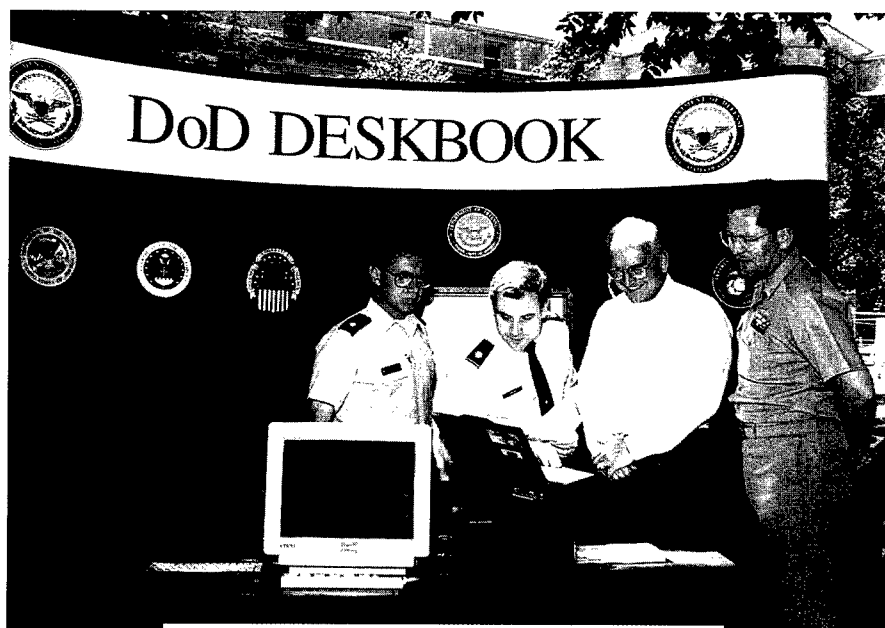
DR. PAUL G. KAMINSKI, UNDER SECRETARY OF DEFENSE
(ACQUISITION & TECHNOLOGY) REVIEWS A PROTOTYPE OF THE
ACQUISITION DESKBOOK WHICH WAS ON DISPLAY IN THE
PENTAGON COURTYARD AS PART OF ACQUISITION REFORM
ACCELERATION DAY ACTIVITIES, MAY 31, 1996. PICTURED
FROM LEFT: ARMY LT. COL. MICHAEL B. MONAGHAN, OFFICE OF
THE ASSISTANT SECRETARY OF THE ARMY FOR RESEARCH,
DEVELOPMENT, AND ACQUISITION; MAJ. RANDY HILDEBRANDT,
AIR SYSTEMS COMMAND; KAMINSKI; AND NAVY CMDR. ERIC C.
SMITH, COMMANDER, CEC, NAVAL FACILITIES ENGINEERING
COMMAND.

OSD, Component- and Command-level. Hypertext links connect you to information on how a TEMP is developed, who requires the information, and why it is required. A TEMP format is provided under the Sample Formats and Tools section, followed by a list of software tools to help you gain efficiencies in the process. The Software Tool information includes the name of the tool, a narrative on what the tool can do for you, and distributor information such as phone number, mailing, and E-mail address. Each screen also provides access to Innovative Practices, Practical Advice, and Lessons Learned from acquisition professionals sharing the benefit of their experience on a particular subject.

Rounding out the acquisition professional's information needs is the Defense Acquisition Deskbook

Website. The Website consists of four parts:

• First, there is a bulletin board capability allowing you to see new policies and practices included in the next quarterly release of the Deskbook CD-ROM, to provide comments and feedback to other users comments, and to respond to questions asked by the acquisition leadership through a survey function.

• Addressing the need for timely information flow, the second part of the Website is the "Ask a Professor" program. This program enables you to ask questions about acquisition policies and practices, which are then routed to knowledgeable faculty members at appropriate DoD schools for answers. The questions

are posted on the bulletin board, and within 10 working days, answers are provided and posted with the question.

• Third, the Website has links to other sites of interest, like the Acquisition Reform Home Page, to training opportunities and upcoming events, and to newsletters.

• The fourth part of the Website is technical support information provided by the Deskbook Joint Program Office located at Wright-Patterson Air Force Base, Ohio.

Unending Expansion and Update

Information contained on the CD-ROM and accessible through the Website will never be considered complete. Acquisition community input will grow; and topics, processes, and references will be updated and expanded as the acquisition reform revolution continues, as will the technology employed to provide you the Defense Acquisition Deskbook. Within the next year, technological advances will enable the user to access both the hypertext linked body of CD-ROM information and the Website over the Internet. Additionally, the Deskbook Joint Program Office is developing a Macintosh version to allow a broader set of users access to this acquisition tool.

In Conclusion

The Defense Acquisition Deskbook is a visible icon of the cultural change revolutionizing the DoD acquisition community. It provides a much needed tool for the acquisition professional, but more importantly, Deskbook benchmarks the philosophical change undertaken in reforming the way DoD does business. An empowered DoD acquisition workforce provided with clear direction, flexibility to use judgment, timely information, and integrated automated tools will be able to respond to the challenges of today's world, and enable a world-class acquisition system supporting the warfighter's needs!

Deskbook Release No. 2 on Web

Release No. 2 of the Defense Acquisition Deskbook was issued September 30, 1996, and is now available on the World Wide Web. The Defense Acquisition Deskbook is a software system that permits the automated distribution of acquisition policy and procedures throughout the DoD acquisition community. As a Joint program, the Deskbook benefits the entire acquisition community.

Three components comprise the Deskbook: the Reference System, Software Tool Catalog, and the Acquisition Management (AM) Bulletin Board.

- The Reference System holds all mandatory and discretionary acquisition policy and procedures for the Department, and is being developed and distributed to all persons responsible for acquisition functions.

- The Software Tool Catalog details computer-based data and decision making tools available for program management use.

- The AM Bulletin Board is the avenue for queries to designated acquisition policy experts.

The new release includes additional information on Transportability, Major Automated Information System Review Council, Modeling and Simulation, Technical Data Management, Industrial Capability, Use of the Metric System, DoD Parts Control Program, Contract Performance Measurement, Contract Performance Management, and Market Research, to name a few. Also included on the new release are the information and functionality available on the first release.

The Deskbook is still in concurrent development and fielding, with CD-ROMs being distributed quarterly to update and add additional information. For a detailed summary of the Deskbook and its capabilities, see pp. 40-42 in this issue of *Program Manager*.

THIS ISSUE INCLUDES A CD OF THE DESKBOOK.
IF YOU ALREADY HAVE A COPY OF THIS VERSION,
PLEASE GIVE IT TO AN ASSOCIATE WHO DOES NOT.

CAIV—An Important Principle of Acquisition Reform

CAIV is Ready to be Put Into Place

CAPT. GUY HIGGINS, USN

The Chairman of the Joint Chiefs of Staff, General John Shalikashvili, has stated in the Chairman's Program Review that the Department of Defense's modernization accounts are underfunded by some $60 billion over the Program Objectives Memorandum (POM) relative to the Services' needs. This is approximately 25 percent of the entire procurement budget over that same period—a very substantial problem.

Today

The Defense Science Board, over the past three years, has made a series of detailed studies investigating the direction in which the DoD should be moving to address future threats to national security. The technology investment and equipment procurement to make these kinds of changes may amount to $30 billion over the POM.

Unforeseen contingency operations are not programmed into the budget development, and while the Under Secretary Of Defense (Comptroller), Dr. John Hamre, has made enormous strides in gaining congressional agreement to fund ongoing contingency operations like Operation Joint Endeavor in Bosnia, it is highly unlikely that the Congress will ever agree to establishing a contingency fund for unforeseen operations.

The cost of high-technology defense systems has been increasing annually for decades, leading Mr. Norm Augustine of Lockheed Martin to formulate his famous first law—"Eventually the entire defense budget will be required to procure a single tactical aircraft." Exacerbating this trend is the likelihood that the defense budget will remain level for the foreseeable future. The Figure accompanying this article graphically portrays the fact that actual budgets passed by Congress realize only about 88 percent of the Department's projection for that year when it is first included in the POM.

With the collapse of the Soviet Union, much of the international stability enforced by superpower confrontation in a bipolar world has disappeared. This has led to the appearance of a broad range of threats from high-tech national opponents, to low-tech terrorist forces, to trans-national movements (such as ideological movements). This increased scope of possible threats has increased the range of demands on the operational forces. Similarly, our national decision to minimize U.S. casualties and to employ force with minimum collateral damage has levied additional requirements—the satisfaction of which will require new weapon systems or significant upgrades to existing systems.

Some Background

If the United States is to maintain a defense establishment adequate to the wide range and dynamic nature of future threats to national security, steps must be taken to make national security more affordable. Fortunately, those steps are being taken in a series of acquisition reform-related initiatives.

Secretary of Defense William J. Perry's Military Specifications and Standards (MILSPEC) Reform memorandum of June 1994 provided the umbrella under which a number of performance-based efforts have been initiated, including the establishment of Cost As an Independent Variable (CAIV). Among the three variables of program—cost, schedule, and performance—CAIV is a concept emphasizing cost or unit price as the constant. A program can be managed by allowing all three of these parameters to vary in response to program dynamics, but that requires a very difficult and elaborate management scheme and one that yields poor results. Establishing one of the three as a constant (or independent variable) allows the program manager (PM) to more easily control the program through manipulation of the other two variables.

In any weapon system development program, program managers have those three levers that they can manipulate to control the output of the development: cost, schedule, and performance. During the Cold War, when the United States and our allies operated at a significant numerical disadvantage relative to our most likely adversary, the Warsaw Pact nations, system performance was the independent variable, and system cost was varied (read that as increased) to meet the performance requirements (which frequently included initial operating capability or schedule). As an inevitable result, program costs always increased. Effectively, there was almost no price

Higgins is the Senior Military Assistant to the Principal Deputy Under Secretary of Defense (Acquisition & Technology).

we were unwilling to pay to achieve the required performance.

This performance was amply demonstrated during Operation Desert Storm in which U.S. systems outperformed Warsaw Pact equipment by orders of magnitude. Acquisition of weapon systems under a Performance-As-an-Independent-Variable (PAIV) acquisition philosophy was not a failure. It worked very well, providing U.S. forces with weapon systems that allowed them to rout a numerically equal, combat-experienced, and well-equipped force. The performance of U.S. forces and U.S. weapon systems in Operation Desert Storm was far better than any operations analysis guru would have dared to predict before the battle.

In parallel with the tacit acceptance of PAIV acquisition during the Cold War, the Department of Defense developed an elaborate set of military specifications and standards that explained in elaborate detail not only what to produce, but how to produce it. Like PAIV itself, these specifications and standards were successes. They did exactly what they were intended to do—ensured the production of material to a single, common, and acceptable standard. Nor were these specifications and standards either unneeded or bad. At the time they were first developed, the requirements of the Department of Defense far exceeded the requirements of the commercial marketplace and could only be achieved through detailed specifications that the Department chose to write and maintain itself.

That has changed; the commercial market is demanding performance equal to or better than that needed by the DoD. Industrial associations have joined in establishing commercial standards nationwide and worldwide to meet these performance requirements. Further, industry, recognizing the quality revolution, has begun competing in the quality arena and internally developing high-quality processes as a competitive advantage.

The assumption is that procurement will be fixed in the "out-years" of the current FYDP — historically, DoD has consistently overestimated the TOA available in these years.

Actual Budgets Passed by Congress in Billions

(Legend: FY90, FY91, FY92, FY93, FY94, FY95)
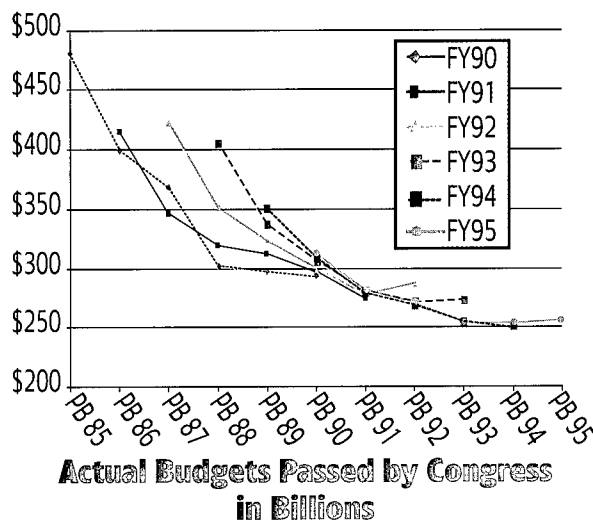
oping high-quality processes as a competitive advantage.

R. Noel Longuemare, Principal Deputy Under Secretary of Defense (Acquisition & Technology), during a Defense Manufacturing Council offsite in November 1994, drew all of this together and coined the phrase "Cost As an Independent Variable." He soon thereafter established CAIV as a principle of acquisition reform and subsequently signed a policy paper mandating the use of CAIV principles in all system acquisition.

So What is CAIV?

Simply explained, CAIV is establishing the affordable price for a system and then trading off either performance or schedule to meet that price. The trick is to define performance very differently than was done under the PAIV concept and in a way that permits the PM and industry to meet the warfighter's real requirements within the constraints of affordability. Under PAIV, system details down to terminology were specified as requirements. This left program managers and their industry counterparts with little or no room within which to maneuver to meet cost constraints.

Under CAIV, system requirements need to be and are being stated in a few broad, top-level terms. The original operational requirements document or ORD for the Joint Primary Aircraft Training System (JPATS), developed in the PAIV time frame, was 140-plus pages long, while the Key Performance Parameters (KPP–those requirements that the PM may *not* trade off) for the Joint Air-to-Surface Standoff Missile (JASSM) are but three: minimum acceptable maximum missile range, mission effectiveness, and aircraft carriers' suitability. While these are very broad requirements, encompassing many lower-level requirements, they are exactly what facilitates CAIV–broad statements of need that can be satisfied in a wide range of ways with a number of, potentially radically different designs. In comparison, the PAIV concept established so many detailed requirements that the PM and industry had virtually no design management room and had to gain requirements community' agreement for any change. This resulted in all competitors proposing essentially the same solution to the requirement and forced the PM to select a winner based solely on frequently poorly understood development or even production cost projections.

Operating under the CAIV concept, the PM can trade off performance for cost as long as the KPPs are met. This means that every opportunity to reduce cost without affecting the KPPs can be made at the program level.

This empowerment simplifies program management and keeps the requirements community involvement at the appropriate level—requirements, not system design.

Doesn't That Mean We'll End Up With 80-Percent Solutions?

By focusing on the real warfighting requirements and allowing industry and the PM to meet those requirements in the most affordable way, CAIV actually increases the probability of fully meeting the requirements. This is true because with ample trade space available to the designer, intelligent trades can be effected quickly and efficiently to trade off lower-level "requirements" to meet the top-level KPPs and meet or reduce costs. An example would be trading off inertial navigation system accuracy for lower cost while achieving total navigation system performance by incorporating a very high-reliability Global Positioning System (GPS) at lower total cost.

Experience in the commercial world, where CAIV has been in place for decades (even if not called by that name), demonstrates that CAIV provides the 100-percent solution and sometimes the 110-percent solution. Lower cost designs are typically simpler and therefore easier to manufacture, more reliable because they incorporate fewer parts, and often provide better performance because the designers find themselves forced to invest more heavily in the intellectual challenges of developing creative designs to meet the cost criteria.

Given a set of broad requirements, any number of designs can meet the need. However, CAIV demands the intellectual investment and provides the discipline needed to develop a creative, elegant design that is absent if performance is the only thing that counts. The creative designs are simpler with better reliability and often better performance.

Isn't CAIV Just Design-to-Cost (DTC) By Another Name?

Design-to-Cost was another of the good ideas developed during the Cold War. Its goal was very much the same as CAIV. The critical difference is that, under DTC, PMs had to meet both cost and performance (including Initial Operational Capability or schedule) requirements. That left them facing a problem in which they were not allowed to vary any of their three classic program management variables: cost, schedule, or performance. Faced with the impossible, the PM routinely failed, and cost increased since the Department was tacitly operating under the PAIV concept and cost was less independent than performance.

As conceived, DTC was not a bad idea. The Department's implementation and the acquisition environment at the time did not provide PMs with the tools to actually control the design cost of their systems. Under the CAIV concept, PMs are provided the tools and are empowered to make trades in low-level system performance to meet cost goals. Further, CAIV explicitly frees two of the program parameters (performance and schedule) to vary to meet costs.

How Do We Know That CAIV Will Work?

For decades, CAIV has worked in the business world. Businesses determine what performance their target customers want and what price they are willing to pay. Business then develops the product with the needed performance at the market price. If business can't produce the product for the market price, they won't market the product. A California-based company decided several years ago to enter the automobile GPS market. They performed a market price analysis and determined that they would have to manufacture GPS receiver/processors (without controls and displays since those components would be part of the integrated automobile system) for $100 or less. They established that as a company goal. Avis car rentals are available with a GPS option today, and the company is making money! There are two interesting sidelights to this story. First, the price of a GPS receiver/processor when the company decided to pursue the auto market was $100,000; and second, the performance of the GPS receiver/processors installed in cars today is significantly better than it was at the $100,000 price. That means that this company was able to achieve higher performance while cutting costs by 99.9 percent!

On a recent visit to the Jet Propulsion Lab, a National Aeronautics and Space Administration Research and Development Center, Longuemare was shown a multispectral spectrometer analogous to a system installed on the Voyager spacecraft. The voyager system cost over $100 million in 1974, weighed hundreds of pounds, and required separate subsystems for different frequency bands. The replacement system, developed under CAIV-like principles ("this is all the money there is"), weighs less than 20 pounds, has a single aperture for all frequencies, and costs less than $8 million in 1996 dollars—well over a 95-percent cost reduction with improved performance.

Terry Little, the former program director for the Joint Direct Attack Munition (JDAM) used CAIV principles in keeping JDAM production costs down. The JDAM program's initial unit price estimate was in excess of $42,000 at the 18,000th unit. After aggressively trading off subsystem performance for cost, JDAM awarded a contract for the full performance at less than a third of the initial cost estimate. This contract price also included a 20-year warranty.

We know that CAIV will work because it is working in DoD and in the commercial world today!

What Happens When the KPPs Can't Be Met?

When industry cannot meet the KPPs with their best efforts, then there are only two possible courses of action: cancel the program as unaffordable or increase the unit price threshold. Either of these decisions is, of course, a major acquisition decision requiring agreement by the acquisition executive and the requirements owner—for

ACAT 1D programs, that would be the Defense Acquisition Executive and the Chairman of the Joint Requirements Oversight Council—co-chairing a Defense Acquisition Board. Canceling the program might seem extreme, but if the acquisition system is working right, and the KPPs are true warfighter requirements, then the minimum acceptable performance has been established. Therefore, if the Department elects not to increase the program funding (i.e., accept a higher unit price), there is no reasonable choice except to cancel the program—procuring a system that does not meet the requirements is a waste of the taxpayers' money.

How Does CAIV Fit With Other Acquisition Reform Initiatives?

Perry's MILSPEC reform initiative set the stage for a move to strict performance specifications. Under that aegis, the Department developed the Single Process Initiative to permit companies to reduce their overhead and manufacturing costs by eliminating duplicate processes. This accelerated realization of the savings implicit in MILSPEC reform. By rewriting the DoD 5000 series instructions, the Department stream-

lined the mandatory government procedures for managing acquisition programs thereby reducing program cycle times. Complementing the DoD 5000, the DoD Deskbook provides a wide range of best practices, alternative strategies, and good ideas to facilitate better program management. The open systems initiative sets the stage for standard interfaces, providing industry the opportunity to design and manufacture systems more cost effectively. Finally, the move to commercial standards leverages the enormous investment the nation has made in technology and productivity and makes it available to defense programs.

All of these initiatives open the door for industry to cut costs and continue cutting costs. So, CAIV takes advantage of all of the acquisition reform initiatives and would, in fact, be very difficult to implement and much less effective without those initiatives.

What's Next?

The Department of Defense is ready to put CAIV into practice. The implementing initiatives are in place. The policy has been signed out. The only

thing remaining is for the requirements and acquisition communities to implement CAIV—set cost goals and stick to them. Work with industry to set and achieve those goals. If the acquisition community is successful in implementing CAIV and achieving results like those realized by business, by the Jet Propulsion Laboratory, and by the JDAM program, we can underwrite Shalikashvili's modernization needs and the Defense Science Board's recommended redirection to meet future scientific and technological needs. As importantly, we can do so without increasing the defense budget or the annual budget deficit.

More About CAIV

The Office of the Secretary of Defense CAIV Working Group is available on the World Wide Web Acquisition Home Page at the following Uniform Resource Locator:

http://www.acq.osd.mil/api/asm/docs.html

This document is available in MS Word 6.0 and can be accessed by either PC or Macintosh computers.

DSMC KEY PHONE INDEX

Office of the Commandant ....(703) 805-3360
Office of the Provost/Deputy Commandant............(703) 805-3408
Executive Institute ....(703) 805-4857
Faculty Division ....(703) 805-2764
Research, Consulting and Information Division......(703) 805-2525
School of Program Management Division ....(703) 805-5173
Division of College Administration and Services......(703) 805-2151
Academic Programs Division ....(703) 805-5146
Human Resources..(703) 805-3363
Office of the Registrar ....(703) 805-2227
DSMC Press ....(703) 805-3364
DSMC FAX... (703) 805-3185/3857

NOTE: Defense Switched Network (DSN) prefix is 655 for numbers listed above.

Eastern Region.........(617) 377-3583
DSN: 478-3583
Fax: (617) 377-7090

Southern Region....(205) 876-2753
DSN: 746-2730
Fax: (205) 876-7268

Central Region...........(314) 263-1142
DSN: 693-1142
Fax: (314) 263-1719

Western Region ....(310) 363-1159
DSN: 833-1159
Fax: (310) 363-5992

Overarching Integrated Product Team— Working Integrated Product Team Process

Successful Acquisition Programs Through Early and Continuous Insight

COL. RICHARD ENGEL, USA

arly in 1995 Secretary of Defense (SECDEF) William J. Perry and Under Secretary of Defense (Acquisition & Technology) (USD[A&T]) Paul G. Kaminski directed a fundamental change in the way the Department acquires goods and services. In his April 28, 1995 memorandum, "Reengineering the Acquisition Oversight and Review Process," Kaminski stated:

> I direct an immediate and fundamental change in the role of the OSD and Component staff organizations currently performing oversight and review of acquisition programs. In the future these staff organizations shall participate as members of integrated product team or teams, which are committed to program success. Rather than checking the work of the program office beginning six months prior to a milestone decision point, as is often the case today, the OSD and Component staffs shall participate early and on an ongoing basis with the program office teams, resolving issues as they arise, rather than during the final decision review.

The direction was clear, and it's working today! How did we get there?

Implementing the Change

With its mandate from the SECDEF and the USD(A&T), the Department established and began implementing the Overarching Integrated Product Team (OIPT) and Working-level Integrated Product Team (WIPT) policy and procedures that are now embodied in the new DoDD 5000.1 and DoD 5000.2-R, published on March 15, 1996.

Throughout the summer and fall of 1995, most of the Department's ACAT I-D programs were "re-baselined" to the OIPT-WIPT process. The program offices developed their WIPT structures and coordinated them with the appropriate OIPT leader. Similarly, the program managers (PM) proposed and received OIPT leader approval of the information required by the Milestone Decision Authority (MDA) to support the next milestone decision.

With the OIPT's strategic guidance in hand, the PMs began the process of forming the agreed-to WIPTs; baselining the team members' knowledge on the program; and engaging these new teams, using the collective expertise in the Department, in the business of making system acquisition programs more successful.

As the teams formed into their WIPTs, both team leaders and team members faced new roles and responsibilities. The focus was now on jointly developing affordable and executable strategies and plans that would increase the opportunities for program success. Members were expected to identify and help resolve issues in a timely manner. They were required to view the program as a whole rather than from a narrow, single functional area perspective. For many members from the Component and OSD staffs, these were significant changes from their old oversight roles that consisted of after-the-fact checking and assessment of a program's readiness to proceed to the next acquisition phase.

In the beginning it was tough work, especially with all ACAT I-D programs transitioning to the new process at the same time. It placed high demands on people's time as they tried to actively participate in the many WIPTs to which they belonged. However, most people dug in, rolled up their sleeves, and went to work, helping define this new OIPT-WIPT process and contribute to *their* programs' success.

Supporting the Change

It was clear from the outset that implementing this cultural change to the Department's oversight and review process was not going to be easy. People's roles and responsibilities were changing. If the change was going to happen efficiently and effectively, education and training of the workforce were vital.

To kick off the cultural transition to the OIPT-WIPT process, Kaminski hosted a day-long DoD offsite, on July 20, 1995, at the Defense Systems Management College (DSMC), with the theme of "Institutionalizing IPTs— DoD's Commitment to Change." The objective of that conference, attended

Engel is the Military Assistant for Systems Acquisition, Office of the Under Secretary of Defense (Acquisition Reform).

OIPT-WIPT Survey Results

87%
IPTs Process Adds Value to Acquisition Program

95%
Immediate Supervisor Supports IPT Process

84%
IPTs Usually Produce Positive Results
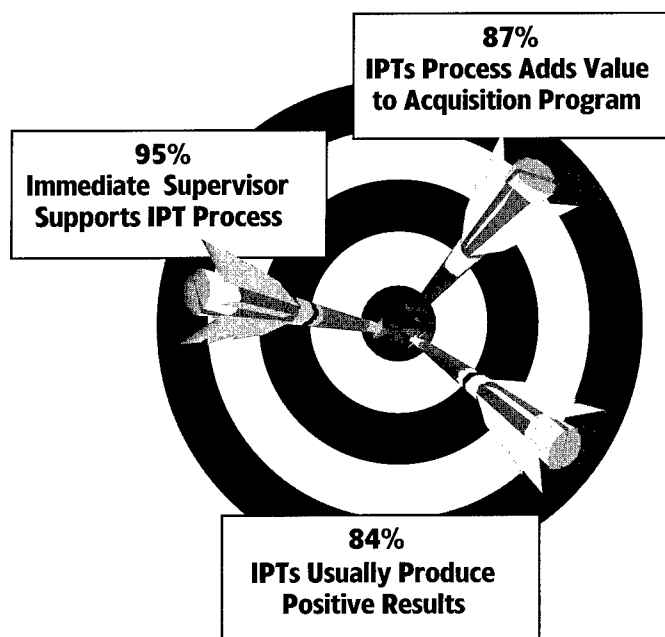
by approximately 400 people, was to develop a common understanding within the Department regarding implementation of the IPT concept. The program included speakers and panel discussions. On August 14, 1995, the USD(A&T) published a memorandum addressing questions and answers that flowed from those discussions.

Because all of the program offices were undergoing the change to the OIPT-WIPT process at the same time they were managing their programs, they needed immediate help and guidance. Consequently, various organizations from the USD(A&T) staff, that had been instrumental in developing the OIPT-WIPT policy, were assigned to the WIPTs. They acted as consultants and mentors to the teams, interpreting the policy and offering guidance regarding implementation.

The OIPT-WIPT process was also a major topic of the October 11-12, 1995 PEO/SYSCOM Commanders/ PM Conference hosted by R. Noel Longuemare, Principal Deputy Under Secretary of Defense (Acquisition & Technology) and Defense Manufacturing Council (DMC) Chairman. There were presentations, panel discussions,

and breakout groups focused on discussing the specifics of the new OIPT-WIPT process, overcoming the implementation barriers, and measuring IPT success.

The conference attendees generally supported the new initiative and recommended ways to accelerate the institutionalization of the OIPT-WIPT process. First, they called for a "Rules of the Road" guide to assist the PMs and their integrated teams as they implemented the new procedures. They recommended that we capture and disseminate to the field any lessons learned and wisdom acquired through early WIPT organization and operations. *Rules of the Road: A Guide for Leading Successful Integrated Product Teams* was published and distributed in November 1995.

The conference attendees also called for additional education and training to "move the OIPT-WIPT process concept from 50 percent to 90 percent effective," and a training video was suggested. The Office of the Under Secretary of Defense (Acquisition Reform) (ODUSD[AR]) responded by producing the *Overarching and Working-level Integrated Product Teams* video and the companion *OIPT-WIPT Infor-*

mation Guide. The video was aired during a nationwide satellite broadcast, on March 14, 1996, and was followed up with a live question-and-answer (Q&A) period. Copies of that tape, with the Q&A session, were distributed by the Acquisition Reform Communications Center throughout the acquisition community.

More copies of the guides and tapes were distributed again to the acquisition community to support the Department's Acquisition Reform Day on May 31, 1996. The OIPT-WIPT process was a major topic for discussion on that day when the Department's Acquisition Community ceased normal operations to discuss and increase its awareness of the various acquisition reform initiatives.

How are we doing?

Quite well. Is there room for improvement? Absolutely!

In February 1996 the USD(A&T) commissioned DSMC to conduct a survey of the OIPT-WIPT process. The surveyed population included all ACAT I PMs and their staff, matrix support to project management offices, program executive officers and their staff, Component staff, and OSD staff. The response was very positive and encouraging.

As shown in the Figure, the vast majority of the respondents indicated that the OIPT-WIPT process produces positive results. Eighty-seven percent of the people said the IPT process adds value to acquisition programs. That's a strong endorsement for the new process.

What do people like about the OIPT-WIPT process? Some of the written comments received in the survey were:

- "Involves all key players early so that there are no surprise 'No's' or 'Nonconcur's' at the last minute."
- "Promotes team building; you get a good understanding of the viewpoints of other organizations."
- "Creates cooperation and ownership of the decision."

People enjoy being part of the team. They like contributing positively to program success through early and continuous participation in developing program strategies, plans, and solutions to issues. Clearly, the OIPT-WIPT process has also improved the job satisfaction of many team members.

Another indicator that the process is working is the Defense Acquisition Board (DAB) record for 1995. Of 26 scheduled DABs, only eight were held. For the other 18 programs, the IPTs had done their job so well that there were no unresolved issues, and the OIPT leaders recommended at the DAB Readiness Meeting that the MDA issue an Acquisition Decision Memorandum without formally convening the DAB. In fact, that was done—the MDA conducted a "paper DAB" for those 18 programs.

Areas for further improvement include: education and training, WIPT member empowerment, and WIPT size.

Many respondents told us that we needed to do a better job at disseminating implementation guidance and providing the workforce with the education and training required to understand and effect the changes. As discussed earlier, in March 1995 ODUSD(AR) intensified its response to that need with the video tape, the satellite broadcast, and the OIPT-WIPT information guide. There has been a very favorable response from the field to those materials. The Defense Acquisition University has also stepped up the process of updating their curriculum to ensure acquisition reform information is built into their course material.

The OIPT leaders are carefully addressing the issues of WIPT size and team member empowerment. Without dictating solutions, they are encouraging team leaders and members to tailor team composition and size to address program strategies, plans, and issues without omitting key participants or stakeholders (including key organizations that are not part of USD[A&T]).

However, teams must balance that need to include all stakeholders with the concern that too many people can hamper productive discussions and meetings. Ultimately, IPT success is dependent upon having the right players at the right place at the right time.

Team member empowerment is critical to the success of the OIPT-WIPT process. The earlier and continuous involvement by the Component and OSD staffs with system acquisition programs is time consuming and demanding. If the systems acquisition programs are to progress in a timely, effective manner, functional heads must delegate and empower their people to speak for them and make decisions on their behalf. Therein, the functional heads have a new role—that of defining the limits of empowerment and then providing staff personnel with the education, training, and other resources to effect proper delegation and empowerment. This area is complex and will take more time to define and develop the required skills, roles, and relationships.

Conclusions

In a relatively short time, the OIPT-WIPT process has become the norm for conducting program oversight and review. It has revolutionized the way the Department does business. Program offices, Component staff, and OSD staff are now working together as a team, using their collective knowledge and expertise throughout the acquisition cycle, to increase their programs' opportunities for success (to provide the warfighters what they need, when they need it, and at an affordable cost.)

As we've seen, the OIPT-WIPT process is working and adding value to the business of systems acquisition. Working together, communicating good ideas up and down the chain of command and horizontally with our contemporaries, the acquisition community will continuously improve the process and provide even better support for the warfighters of the future.

IPPD—One Year After

Untapping the Ingenuity of People

MARK D. SCHAEFFER

A little over one year ago the Secretary of Defense, Dr. William J. Perry, promulgated a new and different management approach for the Department called Integrated Product and Process Development (IPPD). This decision was based on industry and government successes with IPPD.

Perry outlined that the IPPD approach would be applied to the Department of Defense (DoD) Acquisition System for acquiring goods and services for our warfighters. This new way of doing business is characterized by simultaneous development of a system's products and associated life-cycle processes with an objective of reduced acquisition time, reduced cost, and optimized products.

SE Directorate Established

With the adoption of IPPD within the Department, the Principal Deputy Under Secretary of Defense for Acquisition and Technology, R. Noel Longuemare, directed the establishment of the Systems Engineering (SE) Directorate within the existing Test and Evaluation Directorate, led by John Burt. The SE Directorate was established to foster the development and use of systems engineering principles and practices as well as to implement IPPD within the Department. Within months, the Director, Test, Systems Engineering, and Evaluation (DTSE&E) published a *DoD Guide to IPPD*.

Figure 1. A Generic IPPD Iterative Process
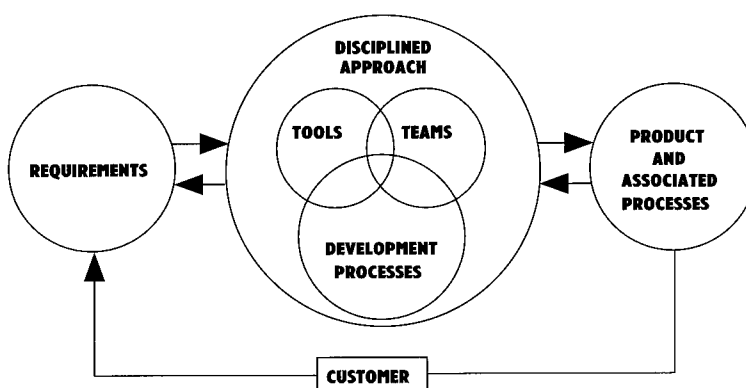
About the Guide

Version 1.0 was published in February 1996. Widely distributed, the Guide is now available on the Internet:

http://www.acq.osd.mil/te/survey/survmain.html

Outlining in detail the DoD IPPD Process, this generic process, as shown in Figure 1, was constructed from research within the government and industry. Specifically, it described the components/elements of a disciplined IPPD approach to organizing tools, teams, and processes to meet the customer's product requirements. The document outlines the key tenets of the process and cites from experience some examples of obstacles encountered when IPPD is implemented. Specifically, the Guide discusses the need for early involvement of all disciplines such as design, manufacturing,

configuration management, quality, test, logistics, finance, operations, disposal, etc.

IPTs, Industry, and PMs

The Guide also discusses the establishment and use of integrated product teams (IPT) as a key tenet to the implementation of IPPD, which provide for improved communications and the untapping of the ingenuity of people to improve the design of both the product and its associated process.

In April 1996, the Director of SE requested an additional review of the Guide by industry to gain further insight into how to improve its content and overall ability to communicate the Department's thinking. Industry suggested minor modifications, but gave the Guide high marks overall. A recent survey conducted by the Department of selected Program Managers (PM) revealed that IPPD is alive and well among those solicited acquisition programs from across the Services. One

Schaeffer is the Deputy Director, Systems Engineering, Test, Systems Engineering and Evaluation Directorate, Office of the Secretary of Defense.

PM was quoted as stating that the IPPD/IPT process "saved my program." Other examples provide additional evidence of better, faster, cheaper acquisitions as a result of IPPD:

- A major fighter aircraft program reported a 10-percent reduction in development costs, a 50-percent reduction in engineering change proposals, and reduced rework/repair/scrap by more than 50 percent.
- A navigation system program reported reduced manufacturing costs by more than 40 percent and life-cycle costs by more than 25 percent.
- A major Navy program, which is following in the footsteps of the Boeing 777, is relying solely on computer-based design. The program IPTs are using leading edge design, manufacturing, and engineering technologies to reduce cycle time and development costs.

As stated in the *DoD Guide to IPPD*, the IPPD process involves three major components: tools, teams, and processes.

Tools, highlighted in the Guide, are helpful aids that are available to assist PMs in managing and developing certain elements of their programs. As defined in the Guide, tools include management, organizational, analytical, measurement, and design tools—all of which assist in the development of programs. Tools highlighted include information technology and decision support aids, integrated master schedules, design for manufacturing, rapid and virtual prototyping, modeling and simulation, CAD/CAE/CAM, metrics, cost models linked to process simulations/activity-based costing, development process control methods, and earned-value management.

Teams, made up of everyone who has a stake in the outcome or product (i.e., IPTs), are fundamental to the integrated development of the products and associated processes that represent best value solutions, and to resolving issues as early in the system development as possible. The Guide discusses

As stated in the DoD Guide to IPPD, the IPPD process involves three major components: tools, teams, and processes...The customer is the ultimate authority regarding the product requirements.

program-level IPTs made up of both government and contractor representatives who are responsible for actual program implementation. A complementary document, *Rules of the Road— A Guide for Leading Successful Integrated Product Teams,* provides a discussion of oversight IPTs.

Development Processes are those activities that collectively lead to the definition of the end product and its associated processes (e.g., manufacturing, support, etc). Application of a systems engineering process, such as that depicted in Figure 2, is fundamental to IPPD. It is through the SE process, within an IPPD context, that the requirements are translated into a product design and its associated processes.

The Customer's Role
The Guide highlights the *customer's* role as being key to the success of the IPPD process. The customer originates the requirements and must be involved in all team actions and, most importantly, all the feedback actions to close the loop. *The customer is the ultimate authority regarding the product requirements.*

The Guide provides the first step by the Department to define the basic framework for use of IPPD with IPTs along with the use of Systems Engineering. The challenge now is to institutionalize these concepts and relationships throughout the Department. Thousands of DoD employees in the acquisition workforce need this information and need it quickly if they are to become active, value-added participants in the acquisition process.

Getting the Word Out
The primary vehicle for training in the Defense acquisition workforce is the curricula offered through the Defense Acquisition University (DAU) con-

Figure 2. **Systems Engineering Process**
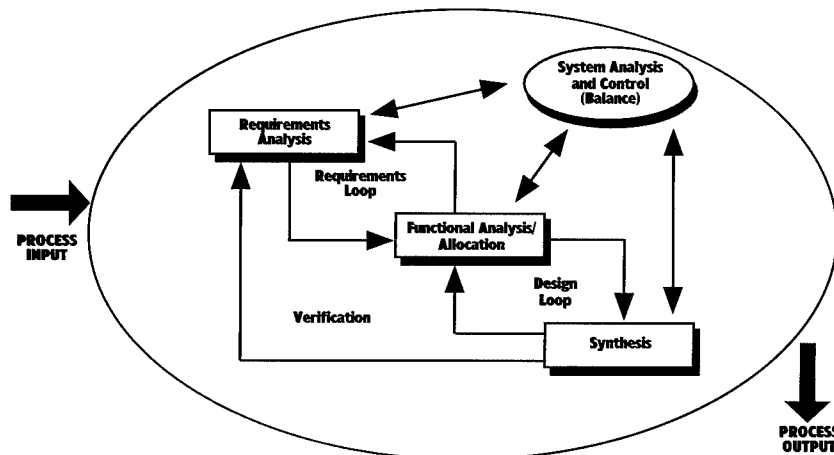
sortium. However, there is an urgent need for widespread training that cannot be accommodated through the normal training process. Therefore, efforts are underway to supplement current training opportunities with mass distribution of a video and/or CD-ROM series on the fundamentals of IPPD.

With the first year's success of the Guide, DTSE&E has embarked upon a program to develop an IPPD Handbook as an enhancement to the Guide. This Handbook, to be completed by the end of this calendar year, will further expand on the IPPD Process, the Systems Engineering Process, and the integration of both of them into the Acquisition Process. This is a large undertaking to adequately explain how these three processes interact with and support each other. The Handbook will expand discussions on the attributes and characteristics of selected acquisition tools; will discuss principles of organizing, educating, and training teams; and will explain why processes are so important in the program. Finally, and probably most important, the Handbook will focus on several case studies currently being written that will contain not only lessons learned in the application of IPPD, but also highlight detailed examples of the positive and practical implementation of tools, teams, and processes used by existing programs.

What Lies Ahead?
So, one year after the Secretary's IPPD process promulgation, there is no question that IPPD is the overall management approach being supported by IPTs within the Department of Defense. The DoD has made significant progress toward establishing an environment that allows industry to excel using IPPD, and the acquisition workforce to effectively participate in IPTs. There will be more to come over the next year to further enhance the Department's ability to exploit the full potential of IPPD in the DoD acquisition process.

WHAT MAKES A SUCCESSFUL ACQUISITION PROGRAM?

Maj. Art Greenlee, USAF

As part of a Principles of Program Management block of instruction for the Advanced Program Management Course (APMC) 96-2 at the Defense Systems Management College, students were asked to answer the question, "What Makes A Successful Acquisition Program?" Their responses are revealing and relevant to the entire professional acquisition workforce. Separated into 10 categories—No. 1 being the most frequent response, No. 2 the next most frequent response, etc.—the bullets under each category represent actual responses from APMC students.

1. Meets Warfighter's Requirements
- Meets user's needs.
- Demonstrates combat capability.
- Delivers product/service that meets user needs.
- Better equipped/more survivable force.
- Introduces new capability that works.
- Enables soldier, sailor, marine, or airman to accomplish mission.
- Achieves Operational Requirements Document/user requirements.
- Passes Operational Test.
- Satisfies customer.

2. Meets Cost and Schedule Objectives
- Affordable, meeting enough user requirements (read Cost As an Independent Variable).
- Timely = Initial Operational Capability or better.
- Stable resources and funding.
- Delivery on time, under budget.
- Funding there when you need it.
- Don't get your budget cut.

3. Competent Leadership
- Competent Program Manager.
- Program Manager, Program Executive Officer, Component Acquisition Executive, Overarching Integrated Product Team, Defense Acquisition Executive politically astute.
- Doesn't get fired.

- Avoids past mistakes.
- Ability to balance cost, schedule, and performance.

4. Politics
- Congress—jobs, funding, satisfaction.
- Program gets needed support at all levels.
- Satisfies political interests.
- Avoids Washington Post.
- Taxpayers satisfied, national will increased.

5. Well Planned and Executed Program
- Sound strategy.
- Innovative plan/execution.
- Accommodates growth/P³I.
- Uses open systems architecture.

6. High-performing Teams
- Teamwork at all levels.
- Integrated Product Team synergism.
- Streamlined oversight.
- Communication.

7. Effective Management of Risks

8. Good Contractor
- Good contractor/government partnership.

9. Program Supportable

10. Mature, Stable Design

Editor's Note: Greenlee is a Professor of Systems Acquisition in the Principles of Program Management Division, DSMC.

The Contribution of ACTDs to Acquisition Reform

Rapidly Moving New Capabilities From the Developer to the User

JOHN M. BACHKOSKY

The Advanced Concept Technology Demonstration (ACTD) program was initiated in early 1994 to permit the early and inexpensive evaluation of mature advanced technologies. By providing a means for this evaluation prior to the initiation of formal acquisition, combat-experienced operators are able to assess military utility and develop the tactics and concept of operations to realize the full potential of new and emerging technologies—from both Defense and commercial sources. Certainly, ACTDs are not a means by which to circumvent the formal acquisition process, but rather a means to enter that process based on a user assessment of the utility and value of the new capability. This process is based on user acceptance and is structured to permit more informed acquisition decisions and reduce the time required to transition technology to the warfighter.

As an extremely important precursor to the formal (5000) acquisition process, ACTDs focus on critical military needs, the early and continuous involvement of the warfighter, and the early and inexpensive evaluation of military utility. In a period where the global proliferation of advanced technologies is unprecedented and the generational life of any technological system may be measured in months rather than years, the ACTD approach provides a means of rapidly evaluating

and, if warranted, quickly moving new capabilities into operational use. In order to do this effectively, we work closely with the warfighter to ensure a meaningful and credible evaluation of military utility, and with the acquisition community to ensure a smooth and rapid transition.

The ACTD Process

An ACTD is sponsored and executed jointly by a team comprised of an operational user and a technology developer, with approval and oversight from the Deputy Under Secretary of Defense for Advanced Technology (DUSD[AT]). The approval process includes very

SENIOR LEADERS ATTENDING THE RECENT ACTD MANAGERS CONFERENCE CONDUCTED AT DSMC's MAIN FORT BELVOIR CAMPUS, 10-11 SEPTEMBER, 1996, ARE PICTURED WITH THE CONFERENCE CHAIRMAN, MICHAEL J. O'CONNOR, ACTING DEPUTY DIRECTOR FOR TECHNOLOGY (MISSILE, AVIATION, PRECISION STRIKE), SARDA. PICTURED FROM LEFT: JOHN W. DOUGLASS, NAVY SERVICE ACQUISITION EXECUTIVE; PAUL G. KAMINSKI, UNDER SECRETARY OF DEFENSE (ACQUISITION & TECHNOLOGY); O'CONNOR; AIR FORCE GEN. JOE RALSTON, VICE CHAIRMAN, JOINT CHIEFS OF STAFF.

Bachkosky is the Deputy Under Secretary of Defense (Advanced Technology).

active participation by the Joint Staff, the Joint Requirements Oversight Council (JROC), Unified Commanders, and the Services. The Joint Requirements Oversight Council, chaired by the Vice Chairman of the Joint Chiefs of Staff, and the Unified Commanders actively participate in the ACTD selection process. The selection process starts when a user/developer team identifies a maturing technology that has the potential to address a critical operational need and structures an ACTD candidate for consideration. When the concept is sufficiently defined, a briefing is presented to the DUSD(AT). Technical maturity and potential military effectiveness are the principal considerations. If accepted, the candidate is presented to an advisory group of senior acquisition and operational executives for their review and assessment and is made available to the Joint Staff, through the Joint Warfare

Capabilities Assessment and the Joint Requirements Oversight Council.

The sponsoring user is responsible for providing the operational forces and defining the mission and scenario, concept of operations, and the measures of effectiveness that will be used in completing the post-demonstration assessment. The development agent provides day-to-day fiscal and programmatic management. Typically, the major source of funding for an ACTD is the executing agency, which is responsible for the mature technology that will be evaluated in the demonstration. Supplemental funds may be provided by the DUSD(AT) for integration activities, additional quantities of the new technology required for a realistic field assessment, and post-demonstration support for continued user evaluation and contingency operations.

Photos by Richard Mattox

Evaluating Military Worth

Each ACTD is intended to meet one or more warfighting needs. In addition, ACTDs allow the warfighting user to evaluate and make recommendations on the military utility of advanced technologies in satisfying such needs before a decision is made to proceed with a formal development or acquisition effort. If successful, an ACTD may be left behind to provide near-term operational capability and the means to further develop training and operational concepts.

Further, ACTDs allow the examination of new, mature technologies and their applicability to emerging missions in a setting which permits us to not only assess the military utility but also allows for the development of operational doctrine and tactics to optimize the effectiveness of the new capability. Through the ACTDs, DoD is establishing a process to capitalize on the technological innovation which is so critical to ensuring that U.S. forces retain their military superiority.

Existing and Planned ACTDs

Ten ACTDs were identified and initiated in FY 1995, and 12 were initiated in FY 1996. The FY 1996 ACTDs are in various stages of planning and execution, and candidates for FY 1997 are currently being reviewed. Each of these is based on integrating and focusing existing technology programs and/or Advanced Technology Demonstrations (ATD) on a specific, critical military need. The FY 1995 ACTDs address the following 10 initiatives:

- improving the effectiveness of Light Ground Forces;
- providing Precision Targeting Data derived from Signals Intelligence;
- effective counter-fire to Multiple Rocket Launchers;
- a Simulation Capability for Joint Combat Training and Rehearsal;
- High Altitude Long Endurance Unmanned Aerial Vehicles;
- Medium Altitude Long Endurance Unmanned Aerial Vehicles;
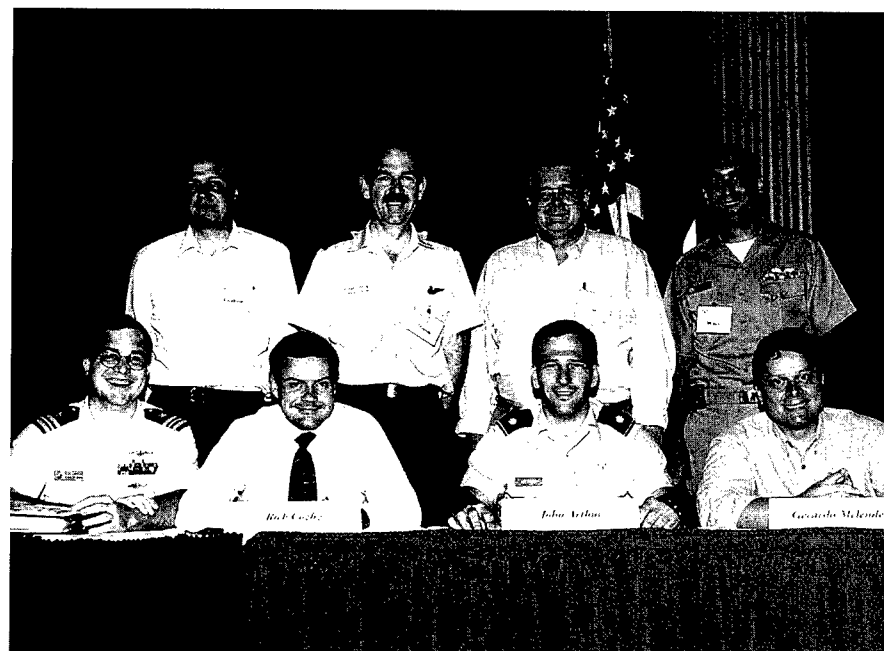- Joint Counter-mine Warfare;

- Cruise Missile Defense;
- Advanced Joint Warfare Planning Capability; and
- Kinetic Energy Boost Phase Intercept Concept.

Of these 10 initiatives, the Cruise Missile Defense (CMD) and Kinetic Energy Boost Phase Intercept (KE-BPI) ACTDs have been successfully completed. The CMD integrated technologies demonstrated an over-the-horizon intercept capability against simulated low altitude land-attack cruise missiles using Navy and Army defensive missiles. The next phase of this ACTD is being considered for initiation in FY 1997. In the KE-BPI ACTD, the concept was determined to be technically achievable but unaffordable; this effort was terminated.

One of the most publicized of the FY 1995 ACTDs is the Predator medium altitude Unmanned Aerial Vehicle (UAV). Predator progressed from a concept to an operational capability in a period of less than 18 months by integrating mature technology developed under several other programs. Each system consists of three air vehicles, a very capable suite of Electro-optical/Infrared/Synthetic Aperture Radar sensors, the appropriate ground control station, and communications support. The first flight occurred in July 1994, and Predator was deployed to the Bosnia theater in July 1995. On March 1 of this year, Predator again was deployed to European Command to support Operation Joint Endeavor. The ACTD is nearing completion, and the process of transitioning to a formal acquisition program has begun. The success of this ACTD enables entrance into the formal acquisition process with a much better understanding of the Predator capabilities (and limitations), a tried and proven set of Concept of Operations, and an assessment from the user community that Predator satisfies a critical military need.

The FY 1996 ACTDs include: airbase/port biological agent detection, counter-proliferation, combat identification, joint readiness enhancements

Several panels convened during the ACTD Managers Conference. Among them was Discussion Panel 3, which focused on the topic of "Planning the Demonstration." Seated from left: Navy Lt. Cmdr. William M. LaPrise, USACOM J32T (Joint Countermine ACTD Operations Manager); Richard S. Cozby, USATECOM (Test & Evaluation Community); Army Lt. Col. John Arthur, USACOM J32 (Combat ID ACTD Operations); Dr. Gerardo Melendez, PM Combat ID (Combat ID Demonstration Manager). Standing from left: Graham Law, ADUSD(AT) (Technical Systems Integration) (OSD Representation); Squadron Leader Martin J. Ball, RAAF (Navigation Warfare ACTD Demonstration Manager); Alan Winkenhofer, USAARMC (Combat Vehicle Survivability ACTD Operations Manager); Navy Lt. Cmdr. Bruce Urbon, Office of Naval Research (Precision SIGINT Targeting ACTD Demonstration Manager).

to the Advanced Joint Planning ACTD, semi-automatic processing of imagery, battlefield awareness and data dissemination systems, navigation warfare, land vehicle survivability, joint logistics, and miniature air launched decoys.

In addition to these, there were three other ACTDs that were initiated in FY 1996. Tactical UAV was initiated in response to direction from the JROC; Counter Sniper to capitalize on emerging technologies that had potential against this threat; and Tactical High Energy Laser, a joint effort with the Israeli Ministry of Defense to provide a means to counter the Katyasha rocket threat.

The FY 1997 ACTD candidates range from a capability to monitor the condition of critical helicopter components (to provide on-board indications of po-

tential failure and to permit condition-based maintenance) to evaluating technologies relevant to military operations in urban terrain. The Under Secretary of Defense (Acquisition & Technology) has basically accepted the JROC prioritization of 18 ACTD candidates for initiation in FY 1997. Activity is currently focused on refining ACTD details and working with the Joint Staff to determine which efforts will be impacted by any reductions in the FY 1997 budget request.

The DoD is committed to maintaining a legacy of military superiority at an affordable cost, a goal that is considered achievable through acquisition reform initiatives such as the ACTD. As an affordable means of rapidly moving new capabilities from the developer to the user, the ACTD process contributes significantly to this goal.

Surfing the Net

An Internet Listing Tailored to the Professional Acquisition Workforce

Department of Defense
Under Secretary of Defense (Acquisition & Technology) (USD[A&T])
http://www.acq.osd.mil/HomePage.html

Deputy Under Secretary of Defense (Acquisition Reform) (DUSD[AR])
http://www.acq.osd.mil/ar

Acquisition Systems Management (Defense Acquisition Board [DAB] Executive Secretary)
http://www.acq.osd.mil/api/asm/

DoD Acquisition Workforce Home Page
http://www.dtic.dla.mil/acqed2/acqed.html

Defense Acquisition Deskbook
http://deskbook.osd.mil/deskbook.html

Defense Acquisition University (DAU) and Acquisition Reform Communications Center (ARCC)
http://www.acq.osd.mil/dau

Army (DCS for Acquisition, AMC)
http://www.dtic.dla.mil/amc/acq/acqmenu.html

Army Acquisition Corps
http://www.army.mil/aac-pg/aac.htm

Army Acquisition Executive
http://www.sarda.army.mil/

Navy Acquisition Reform
http://www.acq-ref.navy.mil/

Air Force (Contracting)
http://www.hq.af.mil/SAFAQ/contracting/

Air Force (Acquisition)
http://www.safaq.hq.af.mil/SAFAQ

AFMC Contracting Laboratory's FAR Site
http://farsite.hill.af.mil/

HQ AFMC/PK Training
http://www.afmc.wpafb.af.mil/

Coast Guard
http://www.dot.gov/dotinfo/uscg/welcome.html

Defense Advanced Research Projects Agency (DARPA)
http://www.arpa.mil

Defense Information Systems Agency (DISA)
http://www.disa.mil

Defense Mapping Agency (DMA)
http://www.dma.gov

Defense Modeling & Simulation Office (DMSO)
http://www.dmso.mil

Defense Systems Management College (DSMC)
http://www.dsmc.dsm.mil

Defense Technical Information Center (DTIC)
http://www.dtic.dla.mil/

DoD Electronic Commerce Office (EC/EDI)
http://www.acq.osd.mil/ec/

National Imagery & Mapping Agency (NIMA)
http://www.dma.gov

Federal Civilian Agencies
ARNET (a joint effort of the National Performance Review and Office of Federal Procurement Policy)
http://www.arnet.gov/

Federal Acquisition Institute (FAI)
http://www.gsa.gov/staff/v/training.htm

General Accounting Office (GAO)
http://www.gao.gov

General Services Administration (GSA)
http://www.gsa.gov

Government Printing Office (GPO)
http://www.access.gpo.gov/su_docs/

National Performance Review (NPR)
http://www.npr.gov/

National Technical Information Service (NTIS)
http://www.fedworld.gov/preview/preview.html

Small Business Administration (SBA)
http://www.SBAonline.SBA.gov

Industry And Professional Organizations
Commerce Business Daily
http://www.govcon.com/

Electronic Industries Association (EIA)
http://www.eia.org

National Contract Management Association (NCMA)
http://www.ncmahq.org

Society Of Logistics Engineers (SOLE)
http://www.telebyte.com/sole/sole.html

Topical Listings
ACQWEB Index of Offices by Title
http://www.acq.osd.mil/acqweb/topindex.html

DoD Specifications & Standards Home Page
http://www.acq.osd.mil/es/std/stdhome.html

Electronic Commerce Resource Centers
http://www.ecrc.gmu.edu/location.html

FAR, Circulars & Supplements from GSA
http://www.gsa.gov/far

Fedworld Information
http://www.fedworld.gov

Single Process Initiative (SPI) Information
http://www.dcmc.dcrb.dla.mil

If you have questions about the above sources, or would like to add your Website to this list, please call the Acquisition Reform Communications Center (ARCC) at 1-888-747-ARCC.

Earned Value Management — Reconciling Government and Commercial Practices

For People Involved in Earned Value — Government, Industry, Academia, Or Consulting — These Are Exciting Times!

WAYNE F. ABBA

The United States Department of Defense (DoD) pioneered many of today's project management techniques. The Department's vital national defense mission requires rapid responses to changing threats, often requiring that its contractors and program managers develop new technology. Because it is difficult if not impossible to establish a firm price for such risky work, government assumes or shares the risk through the use of flexibly priced (cost type or fixed price incentive type) contracts. The resulting large, risky contracts not only push the technical state of the art, they also challenge accepted management techniques — while being scrutinized constantly by the public and its elected representatives.

Searching, Reexamining, Eliminating

Commercial management practices simply do not have much to offer in these circumstances. Many years of searching has failed to find an industrial business arrangement like that between DoD and its contractors. Commercial enterprises rarely enter into cost-based contracts and when they do, the contracts do not approach the scale seen in Defense — hundreds of millions (even billions) of dollars

over a development and production period spanning several years.

Among the techniques used extensively in Defense work, work breakdown structures and network schedules have long been accepted as valuable and fundamental management tools. However, earned value management was not embraced as widely, for several reasons.[1] Earned value originated in government three decades ago, was perceived by many as a mere financial reporting requirement, and was over-implemented by a specialist subculture. As a result, DoD began to correct many of those problems in the 1980s.

With the advent of acquisition reform initiatives in the mid-1990s, DoD once again thoroughly reexamined all its management practices. Many were discarded, such as over-reliance on military specifications and standards. Commercial practices were substituted where feasible. But for risky, cost-based contracts, DoD in 1995 reaffirmed earned value management as the "tool of choice."[2]

Also, DoD regulations reissued in 1996[3] require contractors having either flexibly priced research and develop-

ment contracts valued at $70 million or more or procurement contracts valued at $300 million or more (fiscal year 1996 constant dollars) to meet DoD cost and schedule management control system criteria. The criteria are essentially unchanged from those introduced by DoD in the 1960s. Below the mandatory thresholds, project
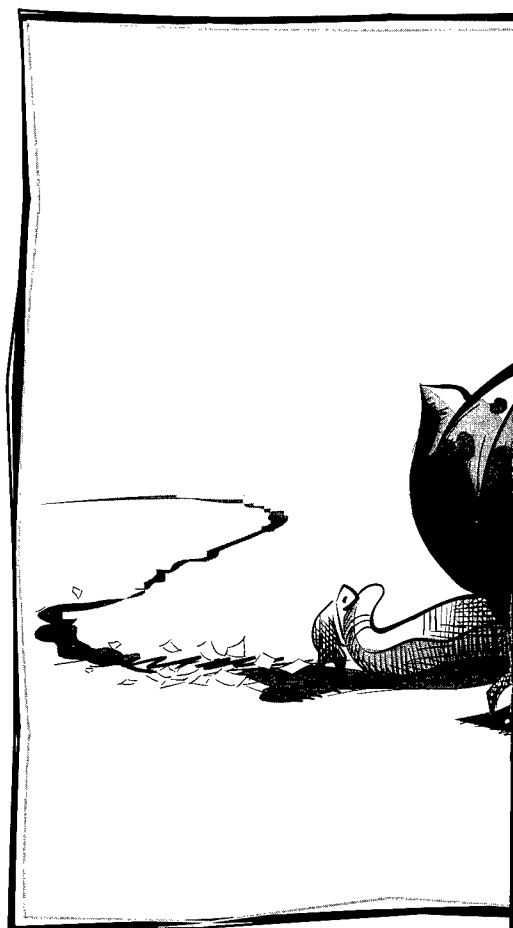
Abba is a Senior Program Analyst, Office of the Under Secretary of Defense (Acquisition & Technology), Directorate for Acquisition Program Integration, Performance Management. He is also an Honorary Professor, DSMC.

We embrace our rules and red tape to prevent bad things from happening, of course. But those same rules prevent good things from happening. They slow government to a snail's pace. They make it impossible to respond to rapidly changing environments. They build wasted time and effort into the very fabric of the organization.

managers may use less formal techniques consistent with expected cost risk.

This article suggests it is time to recognize the "value of earned value" in its proper project management context. As commercial industry increasingly implements earned value on large projects, DoD is seeking to identify and eliminate any practices used on government work that are found to be unnecessary.

The "Revolutionary" 1960s
Increasing program complexity led in the early part of the decade to recognition that management control systems used on large Defense programs needed to be improved. The typical "spend plan" approach, whereby contractors reported actual expenditures against planned expenditures, proved to have no objective relationship to the work that was accomplished. Although DoD pointed out the fallacy of spend plan management three decades ago,

international consultants working in this field today observe that " . . . most of the projects of the world likely relate their planned costs to the actual costs and attempt to ascertain their cost status."[4]

The Navy attempted to improve cost management in 1960 by linking resources to the PERT network then being used on Navy Polaris program[5] contracts. This resource-loaded network system was called PERT COST. It worked after a fashion, but was misunderstood by other programs that attempted to apply it. More than 10 PERT COST variations existed by 1964, each a unique "how-to-manage" requirement imposed by a DoD or National Aeronautics and Space Administration (NASA) program. Industry viewed with alarm the complex, proliferating management systems required by their various government customers.

In 1963, building on the PERT COST efforts, Air Force implemented the first earned value management approach on the Minuteman Program based on *criteria* – brief statements of attributes that a contractor's management system must meet – that were derived from best practices used by American industry. That Air Force innovation left it to each contractor to tailor its individual system requirements. For example, any scheduling system could be used, provided that it described not only the sequence of the work, but also significant task interdependencies required to meet contract objectives.

The Navy and Air Force experience was captured in the Air Force Cost/Schedule Planning and Control Specification or "C/SPEC." In turn, C/SPEC was the basis for the DoD Cost/Schedule Control Systems Criteria (C/SCSC), issued in 1967 as a DoD Instruction.[6] The instruction introduced DoD-wide both the earned value concept and the criterion-based approach to management. The 35 criteria, essentially unchanged today, describe the minimum standards that a contractor cost and schedule management con-

trol system must meet. They are organized in five parts comprising widely recognized basic management principles:

- Organization and Integration of People and Work
- Planning and Budgeting
- Accounting
- Analysis
- Revisions

Although C/SCSC may seem to have emerged fully fledged in 1967, the criterion-based approach to management and earned value actually evolved over a decade. And while earned value was a revolutionary idea, the management principles captured by the criteria remain as fundamental in 1996 as they were in the 1960s.

What is Earned Value?

Earned value is a management technique that relates resource planning to schedules and to technical performance requirements. All work is planned, budgeted, and scheduled in time-phased "planned value" increments, constituting a performance measurement baseline. As work is performed, it is "earned" on the same basis it was planned, in dollars or other quantifiable units such as labor hours. Planned value compared with earned value thus measures the dollar volume of work planned vs. the equivalent dollar volume of work accomplished. Any difference is called a "schedule" or "accomplishment" variance. Earned value compared with the actual cost incurred for the work performed provides an objective measure of cost performance. Any difference is called a cost variance.

Earned value – the objective measurement of completed work and work in process for comparison with planned and actual values for the same work – distinguishes this technique from any other. Its simplicity and value for managers concerned about cost control begs the question, "Why has earned value remained virtually isolated in the government sector?" Its origins probably provide the answer. Invented by

DoD financial managers (though rooted in industry), C/SCSC evolved outside project management mainstream activities that were more concerned with technical and schedule performance considerations than with cost.

Earned Value Evolution — the 1970s and 1980s

As DoD gained experience with the criterion-based approach to management, the 35 criteria were interpreted differently by the three Military Departments. In 1972, the first *C/SCSC Joint Implementation Guide* was issued to increase uniformity and to insure the broadly worded criteria would be interpreted consistently. The first Guide contained 76 pages, with 12 devoted to criteria discussion, the essence of the Guide. By 1987, the Guide had grown to 102 pages, with 20 – a two-thirds increase – now in the criteria discussion chapter. The increase is significant because the "discussions," intended to clarify the criteria, instead became de facto requirements.

For example, one criterion states, "Establish and maintain a time-phased budget baseline at the cost account level against which contract performance can be measured." (A cost account is the management control point – unique to each contractor – at which a substantial amount of work is integrated with the organization responsible for performing it.) The extent of detailed planning within the cost account was not defined by the criterion, the idea being that all work would be planned in detail to the extent it is practical to do so.

The criteria discussion in the 1972 Guide addressed the planning horizon as follows:

Detailed planning approximately six months in the future should provide for adequate planning and control. The extent of the detailed planning is determined by the nature of the work. Production effort is normally planned considerably longer than six months in the future. However, some development projects are

less readily defined and consequently detailed planning may be less than six months in advance.

This "discussion" quickly devolved into an unwritten rule. Despite the repeated cautions that detailed planning should relate to the nature of the work, arbitrary six-month "rolling wave" planning horizons became a norm because:

- contractors who used a six-month rolling wave planning horizon successfully passed the review process;
- government review teams came to expect six-month planning; and
- consultants recommended six-month planning to their contractor clients, who could then pass the review process.

In this circular fashion, the judgment inherent in the criterion-based approach often was replaced by rules, both written and unwritten. Such regulatory creep is by no means unusual in large organizations, and was furthered by cost and schedule management specialists from the government/industry/consultant triad. Specialists were needed because C/SCSC was not embraced by technically oriented managers, who may have been put off by the esoteric C/SCSC jargon.

There can be little doubt that as C/SCSC was implemented during the 1970s, many contractors substantially improved their cost and schedule management control systems. But it is also true that many contractors simply did what they had to do to pass the government review, then produced monthly cost and schedule performance reports that were analyzed in detail by C/SCSC specialists, but ignored by project managers in government and industry. Unpleasant contract overrun surprises that should have been foreseen were one result.

Predictably, C/SCSC specialists responded by tightening the rules. Management failures were answered by increasingly stringent C/SCSC reviews

and by contractual requirements for more detailed cost reporting. Relationships between government and industry grew more acrimonious and frustrating because each side had persuasive reasons to believe it alone had the correct view. The situation was expressed well by Osborne and Gaebler:

We embrace our rules and red tape to prevent bad things from happening, of course. But those same rules prevent good things from happening. They slow government to a snail's pace. They make it impossible to respond to rapidly changing environments. They build wasted time and effort into the very fabric of the organization.[7]

The environment was ripe for reform. Although government reform usually occurs as a result of external influences, for example, a law, a commission, or a new Administration, earned value reform began from within. The Office of the Secretary of Defense (OSD) traditionally had issued broad policy guidelines for the Services to implement. However, OSD became convinced that industry complaints about implementation practices were valid after an OSD-sponsored research study in 1984 found that industry strongly supported the criterion-based approach.[8]

The study concluded, "The most important overall conclusion of the study is that **C/SCSC is a valid concept and approach** to controlling contract performance. We did find some problems. While these problems have not been debilitating and the 'sky is not falling,' there is room for improvement in C/SCSC implementation." Accordingly, OSD began to assume a more active role with the Services and with industry. Some improvements were made in the late 1980s, mainly in training, but were limited as C/SCSC continued to be identified closely with financial reporting. In 1989, the OSD C/SCSC organization was transferred from the DoD Comptroller's office to Acquisition, setting the stage for significant top-down improvement with a

Nearly 30 years after being introduced as DoD policy, earned value management is seen by DoD as a significant reform activity. For people involved in earned value, whether in government, industry, academia, or consulting, these are exciting times.

clear departure from the DoD "Finance" organization.

The organizational transfer was followed in 1989-91 by a joint DoD-industry Total Quality Management or "TQM" survey that was designed to identify DoD and industry customer needs for effective cost/schedule management.[9] The TQM team concluded that both DoD and industry place high importance on the need for effective control systems and made 18 recommendations for improvement. Led by OSD, DoD worked closely with industry to address the recommendations. The TQM bottom-up study was a watershed in government/industry cooperation that led to mutual efforts to improve the process rather than engaging in mutual fault-finding.

Earned Value — the 1990s Project Solution
Having demonstrated its inherent value to DoD, the earned value requirement was reaffirmed in acquisition regulations in 1991.[10] Given this new

mandate, OSD became the driving force in reform initiatives. The pace of change quickened in 1993 when DoD formed an office dedicated to acquisition reform at the Deputy Under Secretary level. The new office examined the earned value initiatives that were underway and lent its strong support.

In December 1994, Coopers & Lybrand/TASC reported the results of an OSD-sponsored study titled, "The DoD Regulatory Cost Premium: A Quantitative Assessment." It found that the value added cost to industry of doing business with DoD was 18 percent, of which 0.9 percent was attributed to C/SCSC. However, most of the 0.9 percent was attributed to non-value added practices that are not required by C/SCSC, and that OSD for several years had encouraged contractors to remove from their management systems. The study served a useful purpose by confirming that desirable reforms were not being implemented.

Nearly 30 years after being introduced as DoD policy, earned value management is seen by DoD as a significant reform activity. For people involved in earned value, whether in government, industry, academia, or consulting, these are exciting times. A good idea from three decades ago has been reinvented as a valuable and fundamental management tool. Of course, this means that old attitudes and practices also must change. To that end, DoD leadership is apparent in a wide variety of initiatives.

Earned Value Ownership
The Service Acquisition Executives, responding to an OSD initiative, accepted ownership of earned value management for their Departments. This "Integrated Program Management Initiative" marks the shift in earned value from its identification with financial management to mainstream project management. An executive steering group was formed to improve each Service's processes while providing reasonable DoD consistency. Chaired by OSD, the steering group oversees the activities necessary to accomplish the following objectives:

- Reduce the review burden by changing emphasis from government review to contractor responsibility for their own systems.
- Obtain only necessary reports, electronically.
- Ensure comprehensive planning and mutual understanding of contract requirements.
- Integrate cost, schedule, technical performance and risk management.

C/SCSC Reorganization

In 1995, DoD abolished the governing committee for C/SCSC implementation, the Performance Measurement Joint Executive Group. With most DoD contractors accepted as meeting the criteria and with earned value management widely understood, a committee for C/SCSC implementation and coordination was no longer required. Its responsibilities were reassigned to the Defense Contract Management Command as executive agent for C/SCSC. The change will streamline the review and acceptance process while encouraging responsible, timely innovation.

Integrated Baseline Reviews (IBR)

In January 1994, the Principal Deputy Under Secretary of Defense (Acquisition & Technology) signed a policy memorandum formalizing the shift in earned value ownership. Program managers were requested to conduct an IBR soon after award to assure that the contract performance measurement baselines capture the entire technical scope of work consistent with schedule requirements and have adequate resources assigned.

The IBR differs from traditional C/SCSC reviews in that IBRs are led by program managers and their technical staffs, supported by earned value specialists, and emphasize comprehensive planning and integration. Two objectives are to reduce the number of C/SCSC reviews required while improving use of cost performance data by contractor and government managers. All the Services strongly endorse the IBR as a significant management improvement.

International Cooperation

A trilateral Memorandum of Understanding (MOU) was signed in 1995 by Australia, Canada, and the United States. The MOU pledges participants to the following types of cooperative and collaborative activities:

- Cooperation with industry to minimize and eliminate where feasible, differences between management practices used for government and commercial activities.
  - Mutual recognition of contractors accepted as compliant with each participant's requirements.
  - Advocacy of improved project management in both government and industry based on effective risk assessment and integrated management of cost, schedule, and technical performance objectives, using earned value as the integrating tool.
  - Outreach to industry, academia, and professional associations.

The United Kingdom, New Zealand, and Sweden also have expressed interest in cooperating on project management principles.

Industry/International Standards

Currently, DoD is cooperating with the National Security Industrial Association, Aerospace Industries Association, and Electronic Industries Association to develop a U.S. industry standard for integrated project management using earned value. Parallel national standards being developed in other countries hold out the prospect for an eventual international standard.

Other Government Agencies

In cooperation with the Executive Office of the President, Office of Management and Budget, OSD is working to develop performance management requirements based on earned value for non-Defense agencies. We are being careful to model the requirements on best practices used by government and industry while avoiding excesses often associated with DoD C/SCSC experience.

Office of Management and Budget Circular A-11, Part 3, "Planning, Budgeting, and Acquisition of Fixed Assets," issued on July 16, 1996, requires earned value as an integral part of fixed asset planning for all proposed and ongoing acquisitions in all Federal Government agencies. Previously, NASA, the National Oceanic and Atmospheric Administration (Department of Commerce), the Federal Aviation Administration and Coast Guard (Department of Transportation), the Internal Revenue Service, and the Federal Bureau of Investigation adopted DoD requirements for their large, risky contracts.

Project Manager Certification

Cooperating with the Project Management Institute, the Performance Management Association, the National Contract Management Association, the Office of Federal Procurement Policy, Defense Acquisition University, and other government agencies, DoD is exploring using the Project Management Body of Knowledge as the basis for project manager certification. This initiative is intended to bring the public and private sectors into closer alignment.

New Management Tools

When earned value emerged in the 1960s, it was years ahead of its time not only in terms of management philosophy, but also in terms of computer hardware and software capability. The Department led in developing analysis tools. The most widely used earned value analysis software, *Performance Analyzer*, was developed by DoD and provided free of charge to some 2,000 users. As commercial tools emerged that duplicated and expanded on *Performance Analyzer* capabilities, DoD stopped enhancing it and instead encouraged the marketplace to meet future DoD needs.

Other DoD tool development activities include electronic data interchange, improved risk management techniques, and new ways of integrating technical performance measures with earned value metrics.

Defense Acquisition Workforce Education and Training

Earned value management content in the Advanced Program Management Course curriculum at the Defense Systems Management College was doubled even as the course length was reduced from 20 to 14 weeks. Other courses benefiting from improved earned value content included those required in the Business, Cost Estimating, and Financial Management areas.

Reconciling Government and Commercial Practices

A recurring theme in the ongoing DoD initiatives is a desire to reconcile management practices used on DoD contracts with practices used on commercial work. Having deflated the notion that a mythical "best commercial practice" could replace disciplined earned value management on cost-based public sector contracts, OSD is cooperating with industry at home and abroad to optimize its management approach. The ideal solution would minimize, and eliminate where feasible, differences between military and commercial practices.

Government and industry have nothing to lose and much to gain from this cooperation. And we have much to learn from one another. The Department invites like-minded enterprises to join in reaching those goals, modeled on initiatives by several major DoD contractors:

- The President, Boeing Defense and Space Group, directed that all contracts would be managed using earned value, regardless of contractual requirements. The Group is well along in implementing a common management system at all locations and is applying it to commercial work also.
- The Under Secretary of Defense (Acquisition and Technology) presented the first Acquisition Excellence Award to the F/A-18E/F government/industry team. A key element in its success was the Integrated

Management Information and Control System, developed by McDonnell Douglas Aerospace and used by the Integrated Product Teams.

- The President, Lockheed Martin Missiles and Space, issued a policy directive making earned value the basis for management of all efforts across all lines of business. A task force is benchmarking earned value practices used on the commercial IRIDIUM(program and will apply lessons learned to the Air Force MILSTAR program. Any unique government requirements that are shown to be unnecessary will be candidates for elimination.

Summary

The Department has reestablished its position as a world leader in risky project management by reaching out to reconcile the best practices pioneered in DoD with those developed in the private sector and internationally. Through cooperative efforts with industry, such as at Lockheed Martin Missiles and Space, OSD is committed to define the attributes of integrated management control systems that meet all needs. Any unique government requirements that are shown to be unnecessary will be eliminated. On the other hand, any that are necessary will be identified and implemented with the least possible burden.

As acceptance of integrated project management using earned value continues to grow in government and industry, professional associations such as the Project Management Institute are appropriate bodies to define its proper place in the global project management community. Accordingly, OSD's outreach to industry and to professional associations opens doors to a wealth of experience and best management practices.

Editor's Note: For information on integrated program management using earned value, visit the Earned Value Home Page:

http://www.acq.osd.mil/pm

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Role of the OSD Developmental T&E Office

T&E—"The Conscience of Acquisition"

RICHARD R. LEDESMA

One of the reengineering goals of acquisition reform is to produce an efficient, effective Under Secretary of Defense (Acquisition and Technology) (USD[A&T]) staff organization—one that uses minimal time and human resources to accomplish the acquisition mission and one that complements the DoD leadership's vision. One means to assess the USD(A&T) staff's effectiveness is to gauge the "value added" by each of its staff elements, measuring that element's contribution to the overall mission goals. The "value added" by the Office of the Deputy Director, Test and Evaluation (ODDT&E) lies in the system assessments for the acquisition decision makers and its support to the acquisition system managers. "Value added" is often in the eyes of the beholder; thus, the purpose of this article is to demonstrate to you, the reader, that ODDT&E, in fact, adds value to the Defense acquisition process and complements the vision of the DoD leadership.

Background

In the recent past, Secretary of Defense Perry stated that Test and Evaluation (T&E) is the "conscience of acquisition." His guidance to the test and evaluation community is to:

- involve T&E in acquisition programs earlier;
- combine developmental and operational testing, when possible; and
- combine testing and training, where feasible.

The USD(A&T) has also given guidance that there should be continuous insight into programs rather than oversight, emphasizing prevention over cures, and focusing on program success rather than sub-optimization.

The "value added" to the acquisition process by the ODDT&E is defined by its mission and goals. As a member of the USD(A&T) staff, the DDT&E's principal *mission* is to provide acquisition decision makers with timely information, based on substantive analyses, regarding program technical risk and methods to mitigate risk where necessary.

The ODDT&E's *policy goal* is to accomplish the T&E mission in a manner that supports the system acquisition managers' efforts for a successful program, and to rapidly field systems that meet the warfighter's needs. Toward that end, ODDT&E strongly supports acquisition reform, and the T&E action officers are active participants in the Integrated Product Team (IPT) process. Participation in the IPT process, from program inception, provides the action officers the opportunity to be pro-active—committed to program success and acting as a positive influence on the program issues earlier in the acquisition cycle than previously possible.

The DDT&E office accomplishes its T&E mission and facilitates the program manager's (PM) success by helping the PM recognize the Test and Evaluation Master Plan (TEMP) and developmental test and evaluation (DT&E) as risk management tools. During the system development process, the value of DT&E to the PM is that T&E measures progress in risk mitigation. The TEMP is a tool to plan for this measurement. In executing the mission, the ODDT&E performs three major functions:

- **assesses test and evaluation planning** adequacy through review of the TEMP and related documents;
- **assesses program readiness to pass major milestones** from a technical maturity and risk viewpoint; and
- **provides PMs the tools** to facilitate accomplishment of their test and evaluation programs.

Assess Test And Evaluation Planning. Planning for test and evaluation is crucial to providing the data the PM needs for system performance *evaluation* and measurement of progress in *risk mitigation*. The ODDT&E gets involved early in the acquisition process as an IPT participant to assist in test planning. The DDT&E action officers, knowledgeable T&E professionals, assist the PM by contributing to test and evaluation planning; by advocating the coupling of DT&E to the PM's risk management plan; by assuring that the

Ledesma is the Deputy Director for Test, Systems Engineering, and Evaluation (Test & Evaluation), Office of the Under Secretary of Defense (Acquisition & Technology). He also oversees the Joint Technical Coordinating Groups for Aircraft Survivability and Munitions Effectiveness, the Precision Guided Weapons Countermeasures T&E Directorate, and the Joint T&E Program, as well as all international T&E activities.

T&E plan adequately addresses user requirements; and by helping the program avoid problems and mistakes encountered in previous programs.

The coupling of DT&E to risk management is crucial to give PMs the information they need to assess program progress in risk mitigation. These T&E professionals also help the program to develop a T&E strategy that uses the Simulation, Test, and Evaluation Process (STEP); takes advantage of commercial-off-the-shelf and non-developmental items (COTS/NDI); combines developmental and operational testing, when feasible; and leverages other initiatives that will save time and resources.

Additionally, ODDT&E developed the Automated Test Planning System (ATPS), an expert-based system (discussed in a succeeding paragraph, "Provide PMs the Proper Tools"), which assists the PM in ensuring that the TEMP is developed to address technical risk. Linkage between the TEMP and the Risk Management Plan yields a DT&E program that provides insight into risk mitigation and, with the proper use of modeling and simulation, provides information as to the expected system operational capability (i.e., Early Operational Assessments). Already, ATPS is proving to be an essential program management planning tool and may currently be accessed from the Acquisition Deskbook.

Assess Program Readiness to Proceed Through Milestones. The ODDT&E provides the senior acquisition decision makers with an assessment of program technical performance and risk. This assessment provides the decision makers T&E information, through the Overarching Integrated Product Team, upon which to base their milestone decisions. Moreover, ODDT&E provides an OSD perspective on each program and its risk. The assessment and perspective are independent of the program advocates. However, they are not a surprise to the PM and Program Executive Officer; rather, *in the spirit of acquisition*

> **The coupling of DT&E to risk management is crucial to give PMs the information they need to assess program progress in risk mitigation.**

reform, they are assessments made by T&E professionals that have been thoroughly discussed with the program management and other acquisition professionals in previous IPT meetings.

The ODDT&E works with the program office, in conjunction with the Office of the Director, Operational Test and Evaluation, both directly and through the IPT process, to understand the seriousness of any faults or risks and to ensure the system is indeed ready to enter the next acquisition phase, or to exit DT&E and begin Initial Operational Test and Evaluation.

Provide PMs the Proper Tools. The ODDT&E provides PMs with tools to enhance test and evaluation planning and program technical risk assessment. The intent is to provide the PMs with the means to get the job done right the first time. The Automated Test Planning System (ATPS) is one such tool. A set of expert system-based software

tools, ATPS is composed of three modules: TEMP Build Module, TEMP Review Module, and T&E Program Risk Assessment Module. These modules take the user through defined steps, coupled with expert advice, to perform the module functions. They provide aids for writing the TEMP; for the PM, Service staffs, and OSD to review the TEMP; and for all to assess program technical risk.

Included in the ATPS is the DoD 5000 series with hypertext links from the TEMP requirements to the proper 5000 series reference. By making the DoD references immediately available, the system saves the program office time. It serves to aid the test and evaluation planning process by assisting to build the linkage between the test program and the PM's risk management plan. It also serves as an aid to the PM in evaluating program risk.

ODDT&E Brings Value to the Acquisition Process
The ODDT&E brings value to the acquisition process through its T&E planning activities and efforts to quantify risk mitigation, its IPT participation, and its T&E tools.

Risk management through the DT&E program enhances program success. Proper **T&E planning** includes linkage from requirements to measures of performance, ensuring that the program will meet warfighter needs.

Through the **program assessments and IPT process**—participation, communications, and information sharing—this office assists the PM to identify areas of risk early in the development sequence, permitting the PM to take timely and cost-effective actions, thus managing risk while reducing the cost and time to develop the system.

The **T&E enhancement tools** now furnished PMs by ODDT&E provide them with information on test planning and risk assessment that they previously did not have readily at their disposal.

Civilian Career Development Program Update

Rotational Career-developing Assignments for A&T Employees — An Initial Success

DR. JOSEPH FERRARA

On May 31, 1996, the USD(A&T) announced the establishment of a new career development program for OUSD(A&T) civilians at grades GS-13 through the Senior Executive Service. The purpose of the program is to provide an opportunity for OUSD(A&T)'s career civilian employees to complete long-term rotational assignments in government or industry. The intent is for rotational assignments to be voluntary, flexible, tailored to individual needs, and broadly based.

Since the announcement of the program, several A&T civilians have begun to participate. For example, an SES member from the office of the Director of Defense Research and Engineering will be doing a rotational assignment as a University Professor at the Uniformed Services University for the Health Sciences in Bethesda, Maryland. Other participants are now planning assignments in the Components and with private industry. In addition, OUSD(A&T) is accepting individuals from other DoD Components for assignments in A&T. The Army, for instance, has sent a GS-15 ICAF graduate to do a one-year assignment with the Acquisition Program Integration (API) office.

Potential Candidate Organizations

Candidate organizations for developmental assignments would include OUSD(A&T), other organizations within the Department, private sector organizations, other U.S. Government departments and agencies, even government departments of other nations. The program is *entirely voluntary;* no one will be required to participate in this program. The program will be available for career civilian staff members in grades GS-13 to the Senior Executive Service (SES) levels.

Program Objectives

This program will help both the overall A&T organization and individual members of the career staff to accomplish two key objectives. First, it will increase organizational productivity and effectiveness by providing A&T with a broader perspective and increased appreciation for diverse mission requirements. Second, it will broaden the ex-
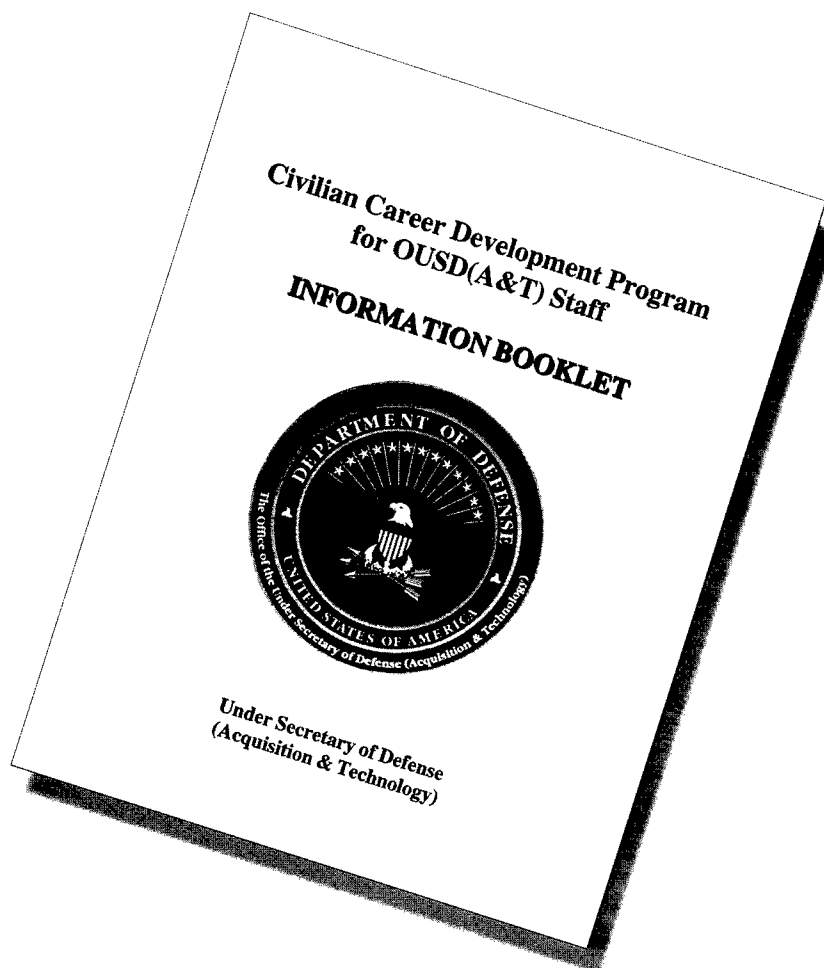
Ferrara is the Executive Secretary to the Board and Executive Committee, Civilian Career Development Program. He is a member of the OUSD(A&T)/API staff.

perience base of the A&T career staff. The career development program will provide an opportunity for A&T employees to refresh their skills, learn more about other organizations, and gain additional career experience. It's the right thing to do for the organization and for our career professionals.

Program Management

The A&T Civilian Career Development Board will provide overall guidance and direction. This Board will be led by the Principal Deputy Under Secretary of Defense for Acquisition and Technology (PDUSD[A&T]) and will consist of A&T executives (career and non-career). The PDUSD(A&T) will also appoint one career staff member each from the ranks of GS-13 through GS-15 to serve on the Board. In addition, the USD(A&T) has established an Executive Committee to support the Board by assisting A&T supervisors in program implementation. The Executive Committee consists of five members chosen by the Board; its membership and chairmanship will rotate biennially. The Director of Acquisition Program Integration will serve as the first chair of the Executive Committee (the charter of the Board and Executive Committee are outlined in the booklet).

How Does the Program Work?

The program depends fundamentally on the initiative and enthusiasm of individual A&T employees and their supervisors. The program is *voluntary* — individual staff members who want to complete developmental assignments in other organizations need to take the initiative to identify candidate organizations that may be interested in accepting them for developmental assignments.

While the success of the program depends on this type of personal initiative, there are resources upon which interested staff members can draw to help them identify potential assignments. The most important resource is the employee's immediate supervisor. Consult with him or her about your career plans and the types of profes-

sional experiences you would like to pursue. Another important resource is the Executive Committee. A central role of the Executive Committee is to act as an agent for staff members interested in identifying developmental assignments.

Finally, applicants are required to complete and submit an Individual Development Plan (IDP). The IDP is a basic "roadmap" of an individual's career objectives and the steps he or she plans to take to achieve these objectives. Completion of the IDP is a very useful exercise that will help applicants clarify their career goals and identify appropriate developmental assignments. The IDP form is included in the Information Booklet.

"Imports" and "Exports"

While the focus of the USD(A&T)'s initiative is on providing a supportive structure for A&T employees (our "exports") to seek out and complete challenging developmental assignments in other organizations, it is important that the entire defense acquisition and technology community, including the Military Departments and Defense Agencies, provide similar opportunities. A key element of enriching the career development of the Department's acquisition professionals is facilitating exchanges between organizations. Such exchanges provide an opportunity for employees to develop new skills and broaden their perspectives.

To facilitate this aspect of the program, the Board and Executive Committee will work closely with the Military Departments and Defense Agencies to identify individuals within their organizations (our "imports") who are interested in completing developmental assignments within OUSD(A&T). In addition, the Board and Executive Committee shall coordinate "import" personnel actions with the Director of A&T Administration to ensure compliance with Administrative Instruction 53, "Temporary Staff Augmentation." The A&T career development program is *not* intended to augment the OUSD(A&T) staff.

Types of Developmental Assignments

Staff members are encouraged to seek developmental assignments in a variety of organizations: within the Department, in other government agencies, in the private sector and academia, and in government departments of other nations. There is no "standard" assignment; each rotation will be negotiated on a case-by-case basis to ensure that it meets the needs of the staff member, A&T, and the "receiving" organization in which the staff member will be accepting an assignment.

To the greatest extent practicable, the A&T Civilian Career Development Program shall take advantage of administrative arrangements that *already exist* to support developmental assignments (e.g., temporary details, leaves of absence, internships, etc.) to implement the program. The main role of the A&T career development program is to establish a supportive management structure to assist employees in meeting their career development objectives and to help the overall organization become more productive.

Applicants should note that certain types of assignments may be more difficult to secure than others. For example, procurement integrity and conflict-of-interest statutes *may* prohibit certain staff members from accepting a developmental assignment with a defense contractor. Program participants shall work with the Executive Committee and the General Counsel's Standards of Conduct office to ensure that all government-to-industry and industry-to-government assignments are in full compliance with applicable statutes and regulations to avoid real or perceived conflicts of interest. This requirement is particularly important in the case of private sector organizations with which the Department does business.

Duration of a Developmental Assignment

Developmental assignments will generally be one year in duration, although a range of six months to three years is

permissible. The intent is for assignments to be of sufficient duration to provide a meaningful experience for the employee. Employees interested in multi-year assignments outside the Washington, D.C., metropolitan area should be aware that such assignments may impact state residency and state tax status.

Employee Rights

While on developmental assignment, A&T staff members are still employed by A&T. Therefore, the employee never leaves his or her position of record and continues to receive his or her full compensation package. While not formally a movement from one position to another, a developmental assignment under this program is considered to meet the definition of rotation for purposes of the five-year review of employees serving in critical acquisition positions. The five-year review is a requirement of the Defense Acquisition Workforce Improvement Act. It is important to note that acceptance of a developmental assignment is a neutral choice as far as downsizing considerations. An employee incurs no more or no less risk by accepting a developmental assignment.

Performance Evaluations

The employee's home A&T organization will evaluate his or her performance for the period of the developmental assignment and will be the decision authority for any performance awards, quality step increases, or within-grade increases. The performance evaluation will be based on appropriate input from the employee's supervisor at the receiving organization.

Funding

The exporting and importing organizations will work together to arrange an equitable sharing of program costs. In general, Temporary Duty (TDY), training, per diem, and associated costs for program participants shall be borne by the individual's home organization, except that the receiving organization shall normally bear any costs *directly* related to the

individual's assignment while in the receiving organization.

Eligibility

Eligibility criteria are as follows:

- A&T staff members at grades GS-13 through SES (including Defense Support Activity employees).
- Most recent two performance evaluations at "Fully Successful" or above.

How To Apply

To apply, eligible employees should follow these steps:

- Discuss your intentions to seek a developmental assignment with your immediate supervisor.
- Solicit your supervisor's assistance in identifying developmental assignments that complement your career development plans.
- Complete a Statement of Interest and Individual Development Plan.
- Prepare an up-to-date resumè or job application form.
- Have your immediate supervisor *fill out the appropriate sections of these forms.*
- Submit your application, IDP, and resumé to the points of contact listed at the conclusion of this article.

How Assignments are Approved

In general, assignment approval is based on the employee and his or her immediate supervisor reaching agreement on the location and duration of the developmental assignment. If the employee and immediate supervisor agree on the specifics and are able to secure an appropriate assignment, then no higher-level approval is necessary (although some coordination with higher-level management may be necessary). In reviewing employee proposals, supervisors shall take into account the quality of the employee's supporting rationale and IDP.

In those cases where both the employee and immediate supervisor agree that completing a developmental assignment would be beneficial to the employee and the organization, *but* are unable to secure an assignment, the

Executive Committee will provide assistance to the employee and the immediate supervisor in identifying challenging assignments.

In *all cases*, employees should take the steps outlined in the "How to Apply" paragraph discussed previously. The application form, IDP, and resumé will serve as a central database for use by the Board and Executive Committee to monitor program status and implementation.

Required Paperwork

Program participants should be aware that, depending on the type of assignment being sought, there may be paperwork requirements in addition to that described previously. For example, an employee setting up an assignment with a defense contractor would need to complete certain forms as specified by the General Counsel's Standards of Conduct Office.

Program Status

The Executive Committee shall convene at least once a quarter to review applications. The purposes of this review shall be to:

- determine if there are any employees who require the Executive Committee's assistance in identifying developmental assignments;
- assign Committee members to intervene on behalf of employees requiring assistance. Assigned Committee members shall attempt to *match developmental* assignment application requests with available positions in other organizations; and
- assess overall program status.

The *Board* shall convene at least once a year to review overall program status and modify the program as appropriate.

Editor's Note: For more information, please contact **Dr. Joseph Ferrara** at (703)697-3459 or **Julie Bigler** at (703) 697-9507. Ferrara is the Executive Secretary to the Board and Executive Committee. Bigler is a Personnel Analyst with OUSD(A&T) Administration.

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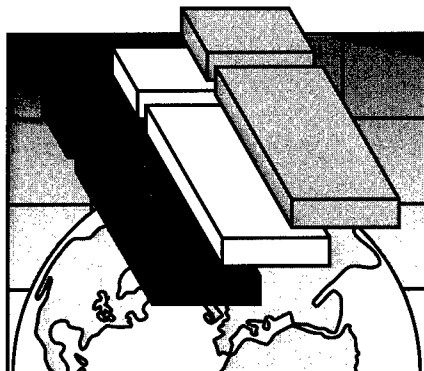
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After the PAT—Reengineering the Acquisition Oversight and Review Process

"Reengineering the Acquisition Process Puts More Responsibility, Not Less, on the PMs and PEOs"

A rmy Brig. Gen. John S. Caldwell, Jr., has not advanced through the Army ranks without taking on the tough jobs. Abrams Project Manager was but one of many assignments that prepared him for, perhaps the most difficult challenge of his career: reengineering the oversight and review process for acquisition systems.

Two years ago, while serving as the Military Assistant for Systems Acquisition in the Office of the Deputy Under Secretary of Defense for Acquisition Reform, Caldwell was chartered by Secretary of Defense, William J. Perry as team leader of a Process Action Team charged with reengineering the oversight and review processes, which comprise the decision making process within systems acquisition. This team, among the first of the Acquisition Reform Process Action Teams (PAT), was described by Under Secretary of Defense for Acquisition and Technology, Paul G. Kaminski, as "...the first prerequisite for what we wanted in that kind of [Process Action Team] effort to remove all existing constraints and have a fresh look."

In an August 1996 interview with *Program Manager* magazine, Kaminski expressed his confidence in the results of that study. "It was a very constructive study in that it pushed far enough to get beyond the comfort zone of some of the people supervising our acquisition system. And so it tested some people on the boundaries of how far we could go to reengineer the system."

"One of the biggest successes in my mind has been the work that's come out of the Oversight and Review Process Action Team. Their initial draft report and the counter-proposal that came from OSD set the stage for the final recommendations acted upon by the Department—use of Integrated Product Teams, early insight rather than oversight, where people are working toward a common goal—program success."

Colleen A. Preston
Deputy Under Secretary of
Defense (Acquisition Reform)
Aug. 22, 1996

Now, two years later, the preponderance of the recommendations coming out of Caldwell's PAT have been accepted and, according to Kaminski, "Most of those [recommendations] have been very effectively put into practice."

Program Manager recently caught up with Caldwell, who is now a general

officer and Director, Army Digitization Office, Office of the Army Chief of Staff. We also managed a simultaneous interview with his successor who was also a member of the PAT, Army Col. Richard A. Engel, Military Assistant for Systems Acquisition, Office of the Under Secretary of Defense for Acquisition and Technology. We asked both to reflect on the progress of this monumental task of reforming the acquisition system.

Process Action Team to reengineer the oversight and review process for material acquisition. We formed a team of about 30 people from all the Services and Defense Agencies to define the oversight review process, determine how to make it more streamlined, reengineer it to reduce the cost of doing business, and improve our acquisition process.

And we accomplished that in about 90 days. We completely re-engineered

implemented. And the process has been underway since April 1995, continuing to examine those recommendations and implement those that were judged ready to be implemented.

We think all of them were worthy of being implemented. Some have not been, and some are still in the process. To my pleasure and surprise, by far most of them have been implemented or they probably will be implemented, even if slightly modified, within a reasonable period of time. Some have not been implemented, and I hope they get a re-look because I think our look was very comprehensive and very thorough, and the recommendations were pretty far-reaching.

Program Manager: Col. Engel, how did you come to be assigned to the position vacated by Gen. Caldwell?

Engel: Shortly after the Process Action Team published its report, Gen. Caldwell was reassigned to the SARDA staff, and I was coming out of my program management shop in Detroit where I was the PM for Survivability Systems. I volunteered to come out here and backfill Gen. Caldwell in this position based on the fact that I was on the Process Action Team, and could build upon my program management experience, and make a contribution to the entire defense acquisition community.

Program Manager: Gen. Caldwell, your report had 33 recommendations. Let's talk about some of the major ones. Would you tell our readers about the three-milestone process. Has it been implemented?

Caldwell: It was not implemented in the way that we recommended. However, the Department decided to go back and re-baseline all of the major programs and make program-by-program decisions on what changes in the oversight and review process could be made that would best fit that program. So the intent of the recommendation for the time being was probably carried out, even though the specific process that we

FROM LEFT: ARMY COL. RICHARD A. ENGEL, OVERSIGHT AND REVIEW PROCESS ACTION TEAM MEMBER, AND ARMY BRIG. GEN. JOHN S. CALDWELL, JR., PROCESS ACTION TEAM LEADER, REFLECT ON THE PROGRESS OF REFORMING OVERSIGHT AND REVIEW OF DoD'S ACQUISITION SYSTEM.

Program Manager: For our readers who might not have heard of your PAT team and their fine work, would you give us a little background?

Caldwell: I'd be glad to. I led the Process Action Team while working for Mrs. Preston in her capacity as the Deputy Under Secretary of Defense for Acquisition Reform. I was appointed to lead the

that process to a large degree and published our findings on Dec. 9, 1994, as directed by the Secretary of Defense in our charter. The process then began review and approval by Dr. Kaminski, the Under Secretary of Defense for Acquisition and Technology. And that process took a while; I believe it was about April 1995 when the first of the recommendations were approved and

"Reengineering the Acquisition Oversight and Review Process"

Highlights of PAT Recommendations to the Secretary of Defense Dec. 9, 1994

The Process Action Team (PAT) developed 30 concrete recommendations for a reengineered oversight and review process. In addition, the team developed three other recommendations to implement the recommendations that senior DoD leaders would ultimately decide to undertake. The reengineered oversight and review process recommendations included the following highlights:

- forging a three-milestone process;
- trimming milestone decision documents and activities;
- collapsing the number of formal pre-milestone meetings to one;
- institutionalizing integrated product teams to do oversight;
- aligning program accountability and reporting;
- centralizing the affordability decision by placing it into the warfighters' hands;
- consolidating the oversight and review process for Joint programs and those programs requiring substantial inter-Service harmonizing;
- establishing more stringent experience criteria for ACAT I program managers and deputy program managers;
- stabilizing major defense acquisition program manager tenure from program initiation until start of production;
- establishing a career civilian deputy for the Defense Acquisition Executive and each Component Acquisition Executive;
- revitalizing the Acquisition Program Baseline as the major program control tool and eliminating the need for other documents and "contracts" (e.g., exit criteria) among the program manager, the user, and the Milestone Decision Authority;
- institutionalizing a summit process for ACAT I programs to highlight opportunities for cost, schedule, and performance trade-offs; and
- applying reengineering principles to contractor oversight.

laid out was not implemented across the board.

Engel: Yes, the three milestones that were laid out in the Process Action Team report were basically the requirements determination phase, an engineering phase, and then a production and fielding phase. And that particular process was not adopted, but we have made some changes to the milestone process in the acquisition cycle.

First off, Dr. Kaminski decided that we would eliminate the Milestone IV decision, so that's no longer in the cycle. That used to be the modification decision point for systems that were already in production and fielding. Under the new process we make a determination as to where that upgrade or that modification would fit back into the acquisition cycle, whether it would have to start with a demonstration/validation or it was mature enough to slip into EMD, and

you would just basically start at that point.

Another decision that moves toward a streamlined milestone process is the fact that there is now only one DAB-level production decision. The policy now is that there will only be one production decision, either low rate or full rate production, at the DAB level, and the other one will be delegated to the Services.

Program Manager: Please comment on trimming milestone decision documents and activities.

Caldwell: Once again, not exactly the way we recommended, but I think there's been tremendous progress made there, and I've been very pleased with that. Very few programs have had to go all the way to a DAB. All the issues have been settled in advance. They've been settled a lot faster with a lot less documentation. And there has been a lot of follow-on, guidelines-type work by Mrs. Preston's office. And I think a lot of progress has been made in that particular case.

Engel: Documentation streamlining, I believe, is one of the major improvements that we've achieved. The old DoD 5000.2 Series was very thick and dictated, or at least gave the impression of dictating, that all of the various forms had to be filled out, the reports had to be attached, and you had to check all the blocks. If you did not want to complete some of those, you had to go back in and ask for a waiver. The new DoD 5000.2 Series information requirements, however, are based on a tailoring-in philosophy.

The new philosophy now is that we will make a deliberate decision to tailor information into the decision package. We start with only what's required by statute and regulation. And at that point, people have to make a deliberate decision as to what information is required by the decision maker to make an informed decision at that future milestone. And so there's a tailoring-in philosophy here.

What's really good about this is that those decisions are made early in the acquisition phase so that PMs will look ahead toward the next milestone. They will say, "Okay, I'm moving to a production decision. What information do I believe the decision maker, the Milestone Decision Authority, needs at that point?" They will work that through their Working-level Integrated Product Team (WIPT) structure. They will then make a recommendation to the Overarching Integrated Product Team (OIPT), and then the OIPT will provide them with guidance or get clarification from the Milestone Decision Authority. And so that information decision is made very early in that particular acquisition phase. And then the entire program management team can move forward executing their program, knowing what information they have to acquire and present four, five, or even six years later when they get to the next milestone. So it's all laid out, and it's tailored to meet the specific program's needs.

Program Manager: How about the issue of collapsing the number of formal pre-milestone meetings to one. Do you want to comment on that?

Caldwell: Maybe my expectations were too high to do that. That has not been implemented the way we envisioned it on the Process Action Team. But there are fewer meetings, and there have been meetings that included members from the Office of the Secretary of Defense and the Service offices in the same meetings, whereas before our decision meetings always followed a sequential process in which the Service would have all of its deliberations and then OSD would have all of its deliberations.

The very sensitive issue is resourcing, the programmatics, dollars, etc. And that's going to be the last one to fall because that gets deep inside in-process decisions, usually a lot broader than any one specific program. And so those are more closely held.

Engel: I thought it was a great recommendation, and it really fits well with

Ninety-five percent of the people who responded to the survey said that their supervisors endorsed the process. Eighty-seven percent of the respondents said that the IPT process adds value to the entire acquisition system.

the WIPT/OIPT process that is in the new 5000. I will have to say that we're not quite there yet. We are moving in that direction.

If the process was working perfectly you would have representatives from all of the Services and the Department's staff working very closely together at the program level—through the WIPTs supporting the PM, and that would eliminate the need for a lot of the pre-milestone briefings given to various Service and OSD executives before the program goes to the Defense Acquisition Executive. We're seeing progress in that direction, but there is right now, I will say, a natural reluctance for a Service Acquisition Executive to take a program to the Defense Acquisition Executive before having a chance to personally look at it.

But we're seeing the comfort level grow, and that's leading to the elimination or consolidation of some of those pre-briefs..

Program Manager: Let's discuss institutionalizing Integrated Product Teams to do oversight and review. Is that working? Do you sense any resistance in the acquisition corps to IPTs, or does the professional acquisition workforce, for the most part, like the concept?

Caldwell: I think they do like it, and it has made a lot of headway to the extent that I think it's broken the cultural mold. And I think everyone sees that when it's executed properly, it really does move you to address all of the issues faster and more effectively.

While there are guidelines that have been published, each program is different and they're in different cycles, so at times there has been some confusion about setting up the IPTs. And IPTs are difficult to run, to do them correctly, and so there's been a lot of training, and there needs to be a lot more training on how to do that. But I believe that the overall jury verdict would be that they have been quite effective, although not perfect.

Engel: I would just add to Gen. Caldwell's comments by saying that I think they're working better than many folks have expected. Dr. Kaminski signed the first memorandum institutionalizing IPTs on Apr. 28, 1995, and then Secretary Perry signed another one on May 10, 1995, basically stating that throughout the Department, we're going to use the IPT process as much as possible.

All of that has been embedded in the new 5000 which was published March 15 of this year. And it's working much, much better than anybody ever anticipated.

We did a survey in February of this year. We went out and we surveyed all of our ACAT-1 PMs and their matrix staff; we went to Component staff, OSD staff and so forth, and we tried to assess how well that process was being implemented. And we were very encouraged with the responses. Ninety-five percent of the people who responded to the survey said that their supervisors endorsed the process. Eighty-seven percent of the respondents said that the IPT process adds value to the entire acquisition system. Quite frankly, that was a much better reaction than we'd expected at that time.

After publishing policy, conducting conferences, conducting a satellite broadcast, producing a video, and publishing in newsletters and so forth, we weren't really sure just how comfortable the people on the ground actually were with this new process. We were very pleased with their positive responses.

There are obviously some areas that need some improvement, and we've identified those and we're continuing to press forward on this. And I think the OIPT/WIPT process, like everything else, is a continuous improvement process. You make the change, and you identify and assess where you are. You identify areas for further improvement, and you keep working those off. And I think we're well down that road.

Program Manager: We've been fortunate to publish a lot of IPT success stories in the last several months. From our vantage point, this initiative appears to be one of the most successful in OSD's ongoing efforts to reform the acquisition process.

Engel: I participate in IPTs for about 20 programs. They've been assigned to me as a mentor and or a consultant from our office to help people understand what the policy is, help interpret it, help them implement it and adapt it to their particular program. And in the programs that I see, I'm very encouraged that it's working well. People are working very well together. I think that the programs are benefiting from the exchange of information, the adding of the additional experience up front and early in the various programs.

When I come down here and I talk to the classes at DSMC, I tell them that what we have done is we have added a vertical dimension to the program manager's staff of advisors. The PM and his immediate organic and matrix support staff frequently will reach out, horizontally so to speak, to outside agencies, test agencies, and analyses agencies for additional support and information.

What we've done now is we've added this vertical dimension. We brought in the experience, knowledge and the expertise from the Service and OSD staffs. They have seen many programs go down through the acquisition cycle and through milestone reviews, and they've seen things that work and things that don't work.

And so what we're doing with this new IPT process is we're plugging that experience in earlier so that you can influence strategies and plans up front. You can tailor the strategies and plans to include all this information as opposed to the old process where maybe program managers weren't aware of that good information until the very end of the cycle. And the first time that they may have received some of this good guidance from the Service or the

OSD staffs was just before a milestone review. That was too late to help the PM.

Caldwell: Yes, the IPT process was a big change from the way business had been done in the Pentagon. And then probably there were many places outside of the Pentagon, out in the Services, where it was a big change also. There were other places where maybe this process was being used to one degree or another.

But the greatest value was that it really did change the culture to one of working together versus the old way of a somewhat adversarial relationship; a very sequential formulating of the issues, closely held, then taking the issues into a different forum. Often you had to start over again. That added a lot of time and sometimes created a lot of ill will, and certainly more cost and headache.

So it's been very favorable, and my action officers in the job I just left were very positive toward it. And the programs that we took through the process during that time all had a very good experience—not perfect, but a very good experience.

Program Manager: We were at the Pentagon in May, and Secretary of Defense Perry handed out several awards to various IPTs. That certainly speaks well of the IPT process.

Caldwell: Secretary Perry has stayed very close to this process, especially considering he does have a lot of other things to do, and that's helped. And Dr. Kaminski, of course, has provided a lot of leadership. Mrs. Preston, of course, as the Acquisition Reform Deputy Under Secretary, has been instrumental in all of this. There's been a lot of leadership from the top.

Program Manager: Could you comment on aligning program accountability and reporting. That was another major recommendation coming out of the PAT team.

Caldwell: That recommendation has been implemented in different forms in

different Services. All the services initially did not warmly receive that recommendation, but they are now moving toward implementation of that recommendation. The Army recently is making some changes to consolidate and then move programs into the subordinate commands of Army Materiel Command and will put an acquisition official over those programs.

Our recommendation was that all the programs ought to come under the acquisition chain. It looks like that's getting ready to happen. On the reporting part, we made some recommendations about the reports and type of reporting and communications between the PMs, PEOs, Service Acquisition Executives, and the Defense Acquisition Executive. I don't think there's been much change in that regard. Although I know there have been some further studies, I'm not sure where that is.

Engel: The API directorate was tasked to study that issue and make some recommendations. They haven't reported out yet. However, with the recent Army PEO restructuring, all of the Services have now streamlined the reporting chain for all of their ACAT I-III programs. The Army's new structure places Deputy CGs for Acquisition within the Army Materiel Command's major subordinate commands to function as the PEO for their AMC-managed programs. Essentially the Services have already accomplished what the PAT recommended, and that issue can probably be considered closed. They've done what's spelled out in the new DoD 5000 (streamlining the reporting chain with no more than two levels of review between the PM and the milestone decision authority).

Program Manager: Let's turn to centralizing the affordability decision by placing it into the warfighter's hands. Has this come about?

Caldwell: Not the way we would like to have seen it done. Personally I was a little disappointed in this one. But actually, I believe that our recommendations were very much in line with the

Actually, the process that we used within the team to formulate those recommendations, while it was long and pretty arduous, was clearly a consensus within the team, and it was almost unanimous on every one of the recommendations.

way the Joint Requirements Oversight Council (JROC) procedure is going anyway. So if I were to look at the glass as half full, I believe the JROC process is leaning toward what we recommended. Our recommendation would have more closely tied the acquisition process to the requirements question and affordability determination process better and sooner.

And as far as this requirements question and affordability process, it really has not been formally addressed. I know there's been a lot of discussion about it. But I must tell you that was the one that disappointed us because we spent an awful lot of time on that one, and we worked very closely with the Joint Staff on that. But for one reason or another, it didn't take off.

Engel: Centralizing the affordability decision is ongoing, but not in the strictest sense that it was recommended in the PAT report. One of the major tenets of the new 5000 is the up-front and continuous role of the user in the acquisition process. I guess it would be safe to say in the past users would define their requirements and then would hand them off to the acquisition team to execute. And while users would stay in touch, the acquisition team would develop and field the hardware to meet that requirement.

What 5000 does for us now is it defines a much greater role of the user throughout the process. We are trying to get the user involved up front and early in defining the requirements in a form that, if you will, doesn't drive specific materiel solutions. We are going to work with the user more closely in terms of what are the risks, the costs, and the schedule implications of the various requirements so that we both have a better understanding as to what it's going to take to develop and field a system that will meet those requirements.

They—the users—will be instrumental to us as we implement the Cost-As-an-

Independent-Variable (CAIV) policy, which is another key feature of the new 5000 in the acquisition process. We are going to have to work together with them, as well as closer with industry, in identifying what the costs are and identifying that key cost target, that CAIV objective. That's going to be worked into our program goals. As we go through the acquisition cycle, we become smarter and more knowledgeable with regard to the actual technologies that we are developing. And we also become smarter and more knowledgeable regarding the threats that we're facing, the capabilities that we need, and, therefore, the user's requirements. That will afford us, the user and acquirer working together, a continuing opportunity to conduct trade-offs between cost, schedule, and performance in order to ultimately achieve the CAIV objective that we agreed to at the very beginning of the process.

Program Manager: Consolidating the oversight and review process for Joint programs and those programs requiring substantial inter-Service harmony. Would you comment on that recommendation?

Caldwell: Personally I have not had a lot of experience with Joint programs. In my most recent job as the Assistant Deputy for Systems Management, I worked around a lot of Joint programs. And if I had known as much about Joint programs as I do now, I would have pushed that recommendation a lot harder.

I think we were correct in our recommendation, but it's one that is very difficult to implement. I am more convinced now than I was then that it is an area that needs a lot of improvement, and I think that our recommendation ought to get re-looked in some of the really tough programs.

Engel: That's a real tough one. The PAT report recommended that we, as an experiment, establish a Joint Acquisition Executive to try and consolidate the decision authority and other programmatic aspects. That recommendation was not approved

by the USD(A&T). He felt that it was too big a step to take at this time, but he did recognize that there were some very serious problems associated with trying to manage Joint programs.

And so, again, he asked API to conduct a study of the problems associated with Joint program management, and they have not reported out yet.

However, I believe, again, that the WIPT process will certainly help facilitate a smoother management of Joint programs. I've seen evidence of that on some of the Joint programs that I work with. The WIPT process gets all the stakeholders, from all the Services, working closer together. Certainly, the more Services that are involved, the greater the management challenge. But this WIPT process is helping to smooth that process and get the issues on the table sooner and worked collectively. Having said all that, I would emphasize that managing Joint programs, and all the issues associated with varied Service views and funding priorities, will remain a challenge for the PM.

Program Manager: Sounds like an extremely difficult process.

Engel: It's very difficult.

Program Manager: Of the 33 recommendations in that PAT report, are there any in hindsight that you would have changed?

Caldwell: Actually, the process that we used within the team to formulate those recommendations, while it was long and pretty arduous, produced a consensus within the team, and it was virtually unanimous on every one of the recommendations.

No, I think we did a really good job. I've had a lot of time to think about our recommendations, and I wish that we would have been more clever in packaging the ones that haven't been implemented. I would like to think that if we had packaged them better,

maybe they would have been implemented.

Program Manager: Were there any surprises or recommendations that weren't implemented that you expected people to embrace, or vice versa?

Caldwell: A lot of vice versa. More have been implemented than I thought would be if you allow for some slight modification. And part of that is, I think, because of how we've done the follow-up, taking some members of the team and those being assigned to Mrs. Preston's office to maintain the focus. They were well-thought-out recommendations; therefore, over time I think a lot of their merit has become obvious.

But no real surprises. While I've said I was disappointed that the Joint program recommendation and the affordability recommendations weren't adopted, I'm not surprised that they haven't been because we knew they would be very tough. I thought we might get a little bit further down the road on the affordability one because I think that that one is at the heart of really streamlining and reengineering the way we do business, and until we do that, I don't think we're going to make a radical change. But we have had more change than I had expected.

Program Manager: What do you see as the biggest challenge facing DoD acquisition right now?

Caldwell: Well, it's broader than acquisition. I don't like to single out acquisition separately. But in a period of fewer resources, the uncertainty of the world situation and the advancement of technology really demand that we keep up with the pace of modernization. That is a very difficult challenge when you have increasing requirements and fewer resources.

As the technology advances, if you don't keep ahead of it someone else in a local conflict could surprise you and cause a lot of damage/casualties. That, to me, is our biggest challenge.

Engel: I would say that for a long time all of us in the acquisition community have been asking for relief from all of the constraints that are on us in terms of, "You have to do it this way. You have to provide this information." And we've been asking for the latitude to use our sound judgment and our business experience to tailor our programs to do what makes sense. I'm reminded of a saying that warns us to be careful what we ask for because we could get it. Well, now we've got it(the opportunity to tailor our programs and do what makes good business sense.

Our people want to be successful, and in the past success was pretty well defined by the old 5000(do things exactly this way. Now with the freedom to tailor just about everything we do, our people are concerned with, "Well, what is success now?" And they may be hesitant or apprehensive to go out and try new things on their own for fear that it may not work and they will not be seen as successful.

So I think the challenge is taking the new freedom, the new latitude that we have, not being timid, and boldly stretching, going and trying new things, challenging the system, and identifying new opportunities.

Program Manager: Dr. Kaminski believes that we are at the "end of the beginning" of acquisition reform, meaning that we have built a good solid foundation upon which to complete reforming the acquisition process. Any comment?

Caldwell: I don't think there's any question that we've gotten a very good start. And it was very difficult to get this far. I always hesitate to predict the future, but if we continue to work as hard as we have and if the subsequent leadership down the road continues to focus on it, I think that it will continue to take hold.

Program Manager: Gen. Caldwell, do you have any advice for PEOs and PMs as they are out there in their program management activities every day imple-

menting all these new policies, procedures, and strategies?

Caldwell: It may be presumptuous of me to do that. But the reengineering of the acquisition process puts more responsibility, not less, on the PMs and PEOs because it removes a lot of the overhead that was there to check their work. And while it was very onerous and time consuming and expensive, the system did rely on that overhead to check a lot of the work.

The challenge is going to be when some mistakes are made (which there are going to be because this is a very difficult business), will the leadership back up the program manager? When you're in development and you're pushing the edge of technology and sometimes schedule-oriented because of the resourcing, PMs are going to make some mistakes. And when they do, the system is going to have to back the PMs up. The PMs will have made the decisions that they made for the right reasons even though the answers may not turn out that way.

It's going to be when some mistakes are made that we will see if acquisition reform is real or not. If the people that are in the leadership positions and the program management positions are not backed up when they take the risk, then they're likely not to take any more risk and then we will take a step back. I don't believe that will happen.

Program Manager: So you do believe that senior OSD leaders are going to be more tolerant of risktaking?

Caldwell: I believe they need to be more tolerant of risktaking. As I said, there will be mistakes made, and the leadership will have to examine, ensure that the decisions were made for the right reasons, and then if the 95-percent chance of success turns into the 5-percent failure, the leadership has to be willing to back up the person that took the 95-percent chance but lost to the 5 percent.

In Memoriam

U.S. Navy Rear Adm. Roger D. Johnson, 64, the eighth Commandant of the Defense Systems Management College from April 1984 until retirement in September 1985, died of cardiac arrest Oct. 4 at Fairfax Hospital, Fairfax, Va.

Known as "Spider" by family and friends, Johnson was born in Montpelier, N.D., and was raised in Wilmar, Minn. In March 1952 he enlisted in the Navy as an electronics technician. He became a naval aviator after graduation from the U.S. Naval Academy in 1955.

Johnson earned a master's degree in physics from the Naval Postgraduate School, Monterey, Calif., in 1963, and joined the Naval Air Systems Command in Washington D.C.

Johnson graduated the National Defense University and the Industrial College of the Armed Forces as a distinguished graduate in 1976 before returning to the Naval Air Systems Command as a deputy project manager.

In 1980, he was assigned assistant commander for systems and engineering and then deputy commander for plans and programs.

After retiring from the Navy, Johnson worked for Cypress International in Alexandria as vice president for Navy programs and then as a Navy systems representative in Washington for Boeing Co., retiring in 1995.

Survivors include his wife of 39 years, Jean Johnson of Vienna; two daughters, Kim Frowein of Arlington and Karen Plummer of Vienna; son Scott Johnson of Big Sky, Mont.; and four granddaughters.

DSMC Hosts Single Process Initiative Symposium

Government-unique Management and Technical Requirements Giving Way To Common, Facility-wide Systems Based on Best Commercial Practices

LT. COL. BOB HARTZELL, USAF

Better, faster, at a lower cost. Those were the watchwords for the day on June 28, 1996, as the Defense Systems Management College (DSMC) Commandant, Army Brig. Gen. Richard A. Black, hosted the first of nine symposiums designed to keep the faculty on the cutting edge of acquisition reform. As reported in a series of articles in the March-April 1996 issue of *Program Manager*, the Single Process Initiative (SPI), as directed by Secretary of Defense William J. Perry, will replace government-unique management and technical requirements with common, facility-wide systems based on best commercial practices, wherever practical.

Members of industry, DoD acquisition activities, and faculty joined in the symposium held at the DSMC main campus to share the most current experiences and lessons learned in implementing the DoD SPI, the next logical step in acquisition reform, and specifications and standards reform. The focus of the symposium was on the DoD/Industry SPI experience at Raytheon Electronic Systems' Andover, Massachusetts facility. In April, Raytheon and the Defense Contract Management Command (DCMC) Administrative Contracting Officer executed a block change modification. On June 7, a modification was definitized, formalizing two years' effort on the part of both industry and

THE SPI SYMPOSIUM SPEAKERS. STANDING FROM LEFT: NAVY CMDR. BOB PETROKA, NAVY SPI OFFICE; GENE STOCKTON, RAYTHEON; RICH REED, DSMC DEAN OF FACULTY; ARMY BRIG. GEN. RICHARD A. BLACK, DSMC COMMANDANT; JIM BAUER, HQ DCMC; STEVE TITUNIC, DCMC RAYTHEON; JIM STEELMAN, ARMY PEO FOR TACTICAL MISSILES; AND BILL SMART, ARMY PEO FOR MISSILE DEFENSE.

Hartzell is a Professor of Engineering Management, Manufacturing Management Department, Faculty Division, DSMC. He is a graduate of PMC 89-3.
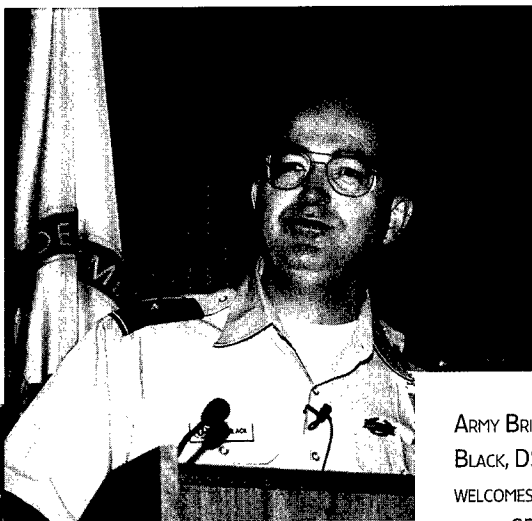
Army Brig. Gen. Richard A. Black, DSMC Commandant, welcomes faculty and guests to the SPI symposium. Faculty symposiums are designed to ensure DSMC remains the acquisition academy of distinction.

DoD making that experience an SPI "early success story."

During the SPI symposium, the DSMC faculty benefited by hearing firsthand from those government and industry practitioners who are intimately involved in making SPI a reality now. Invited speakers included: Jim Bauer from DCMC, who spoke on the block change process; Gene Stockton from Raytheon touched on their experience with trying to create a common process factory serving tri-Service customers; Jim Steelman from the Army PEO Tactical Missiles covered their role in the streamlining efforts at Raytheon; Bill Smart from the Army PEO Missile Defense discussed the challenges associated with being the component team lead charged with representing all Army programs during the evaluation of proposals; and Navy Cmdr. Bob Petroka provided an action officer view from the Navy SPI Office.

Single Process Initiative deployment throughout the defense industry continues to accelerate as reported by the DCMC Commander, Air Force Maj. Gen. Robert W. Drewes, in his most recent quarterly report. According to the report, 69 contractors submitted 194 concept papers[1] to change 264 processes. Of these, 166 are technically related, and 98 are business-related. Thirty seven reflect all actions as completed and implemented at contractor facilities. On average, it takes 95 days from submittal to completed modification.

Field activities are continuing to tackle several issues:

• Consideration is still a concern, although in most instances, is recouped in other forms such as goods and services.

• A government/industry team has reviewed those situations where a prime is also a subcontractor.

• Substitute contract language is needed to protect government interests when a specification or standard has been canceled.

• Assignment and workload of Component team leaders.

• Changes to processes which are affected by law or regulation.

• Industry concerns over lack of government commitment to fully deploy SPI now as well as on future contracts.

In closing the symposium, Black commented on incorporating SPI into the DSMC educational experience. "As a result of today's experience, DSMC Department Chairs and Course Directors will be better able to integrate SPI concepts and lessons learned into functional curricula. We owe our customers intimate insight into the latest in acquisition reform if we are to remain the acquisition academy of distinction."

Future faculty symposiums will cover Cost As An Independent Variable, Integrated Product and Process Development, changes to the DoD 5000 series, and the other acquisition reform topics addressed during the May 31, 1996, Acquisition Reform Acceleration Day.

E N D N O T E

Concept papers begin the process and are developed by the contractor when proposing changes to a management or technical area.

Dean Rusk once said, "The pace of events is moving so fast that unless we can find some way to keep our sights on tomorrow, we cannot expect to be in touch with today." In many ways, the pace of change in the world has increased many times since then, making his statement even more applicable today. To build on Dr. Kaminski's statement that we are now at the "end of the beginning," it is safe to say that for the acquisition workforce (AWF), "Every day is now a new beginning." The many efforts by the workforce to implement the changes that have been conceived in various acquisition reform initiatives *are* new beginnings every day in a multitude of different areas.

Keeping up with the rapid pace continues to be the major challenge for every member of the AWF. Each acquisition change ripples through every sentence we write and speak, or action we take, or class we teach. Change has become the norm—and not the exception. We make it our friend, we embrace it, and we recognize that although change itself is inevitable, change for the better is work, *daily work*!

The College is meeting the challenge in many of the same ways the AWF is improving itself on the larger scale. We, too, are stepping outside of our comfort box and asking, "What makes sense?"—for *all* of the AWF, including DSMC. We recognize that we cannot change the future by focusing on the past, but we can change the future by imaginatively evaluating "what ifs..." and then trying them.

To assist our senior leadership in their efforts to implement acquisition reform, we are seeking new means to reach more members of the acquisition workforce *better, faster,* and *cheaper*. Our major thrust in this endeavor is to bring more of our course offerings either directly to your worksite, or closer to you than we have been able to do in the past, using a number of new initiatives. As we succeed in this effort, you will spend less time in travel to classes; less time away from work; and hopefully more time with your family—and we will all be saving our tax dollars. This effort will require real teamwork between the AWF, the Defense Acquisition Career Managers, and the DAU consortium of schools.

Teaming usually results when two or more people decide it is better to work together than apart. We have talked to more of our outside advisors and outside users than ever before to determine their requirements. We have started pilot programs in areas that are new territory to us, trying new ways of doing business. We are disseminating—to you—more information on our DSMC Home Page every day. Take a look at it.

We are also making our experts and our resources more available for consulting and research—our other missions besides education. One of the ways we are doing this is through another innovative Defense Acquisition University (DAU) information resource called "Ask A Professor," which may be accessed on the Internet at the following URL:

http://deskbook.osd.mil/deskbook.html

This web site, which is linked to the DAU's Home Page, is part of the Defense Acquisition Deskbook. "Ask A Professor" is a type of "chat room" that allows the acquisition workforce to post and receive responses to their acquisition-related questions from knowledgeable experts in the DAU consortium schools and other resource centers within 10 workdays.

At DSMC, we are experiencing the same dynamic and synergistic effect that Mrs. Preston commented about in her remarks at the Sept. 20 Hammer Awards Ceremony (p. vii, center insert): "It is indeed possible for one individual to make changes in a bureaucracy even as large as the Federal Government and, ...even better, ...*with teamwork, common people can attain uncommon results*."

Where do you, the reader, fit into our plans? As a member of our DSMC AWF community, you are part of our focus group for improvement. Give us your thoughts on how we can do our job *better, faster,* and *cheaper* to meet your needs.

To a large extent, our success depends on you and our mutual commitment to, and participation in, acquisition education, training, and reform. We all must make the choice to be either spectators or participants—I hope you will choose, as I have, to be participants because it is better for all of us. Teddy Roosevelt captured this spirit of participation when he said, "It is not the critic who counts, nor how the strong man stumbled and fell, or where the doer of deeds could have done better. The credit belongs to the person who is actually in the arena; whose face is marred by dust and sweat and blood; who strives valiantly; who errs and comes short time and time again; who knows the great enthusiasms, the great devotions, and spends themself in a worthy cause; who, at the best, knows in the end, the triumph of high achievement; and who, at the worst, if they fail, at least fail while daring greatly...so that their place shall never be with those cold and timid souls who know neither victory nor defeat."
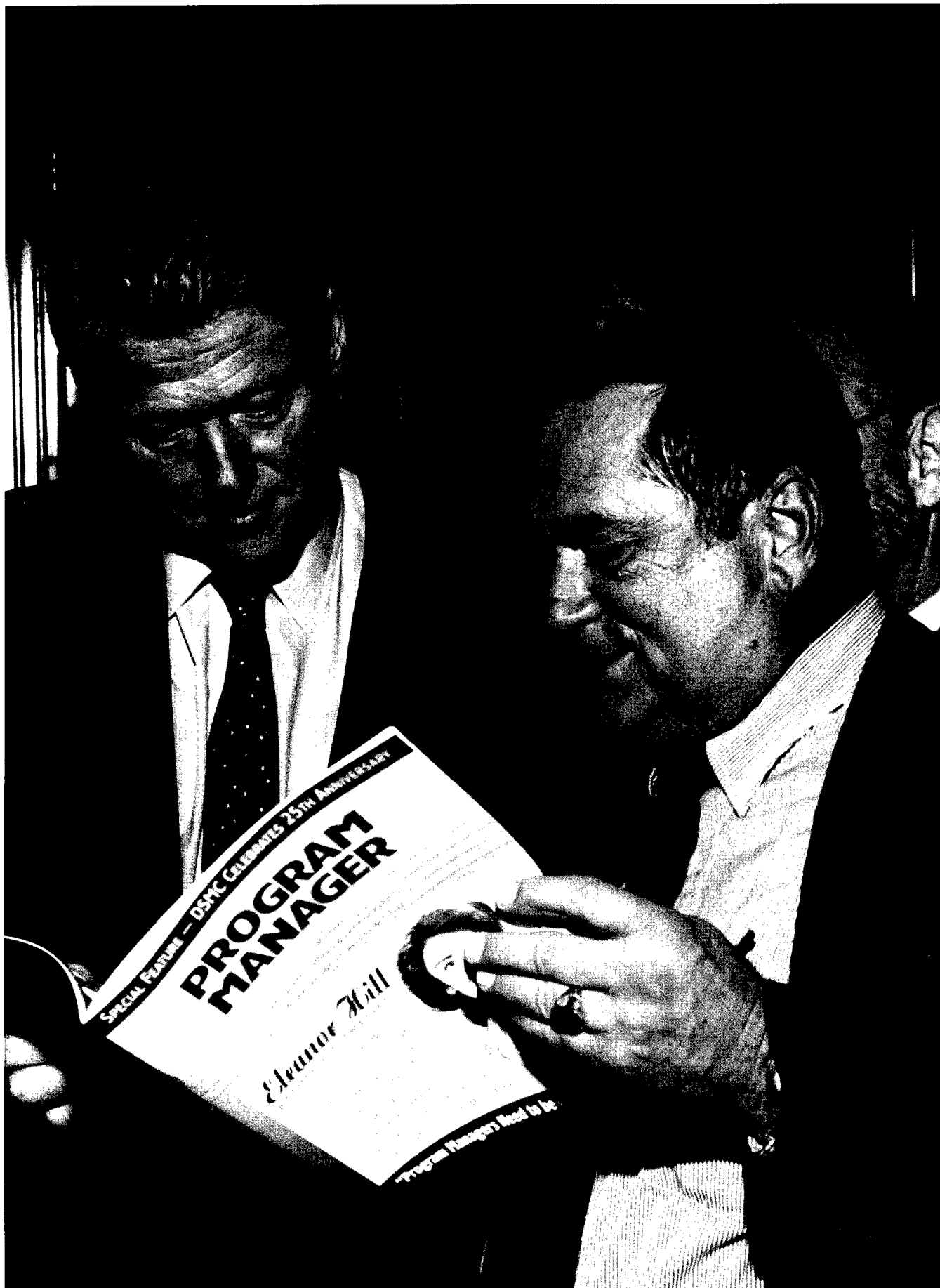
— Brig. Gen. Richard A. Black, USA
   Commandant

The image shows two men, one holding a magazine titled "PROGRAM MANAGER" with "SPECIAL FEATURE — DSMC CELEBRATES 25TH ANNIVERSARY" and "Eleanor Hill" and "Program Managers Need to be..."

Photo by Warren Mattox

PM